Editorial Comment

The cosmetic industry in for a normal steady growth

The consensus seems to be that immediately after the ending of hostilities the market will be flooded with entirely new and improved products and packages. With this thought in mind all are urged to appoint committees within their companies with a view to studying new developments so that they will be ready to share in this "new era" onslaught. But the cosmetic industry is in a little different position from many others, it has no problem of reconversion.

The trend *now* is toward the planning of new packages and new products, and within the past months the cosmetic market has witnessed many new items and packages. True these packages have had to conform to wartime obtainable materials, but this ever-changing industry has always been rampant with new packages, new items, new ideas, and isn't it a little far afield to say that the peace-time period is going to feature an entire change of dress?

Many times in the past complete lines have been repackaged, and they undoubtedly will be in the future; in fact, at this moment, we know of one very large concern that is revamping its several lines. The president of the concern feels the *present* need and states that if conditions warrant it, the lines will be redesigned after the war. The present redoing seems to indicate that in war or peace progress goes on; and as far as the cosmetic industry is concerned, the general progress will go on unhindered, now and when the war is over. The drastic changes predicted for immediately after the war seem to us too vivid a picture to paint. Rather should be pointed up a steady normal growth, such as the ingenuity and resourcefulness of American industry have always shown.

CORRECTION

Our apologies go to Mr. C. A. Pennock, president and general sales manager of Hudnut Sales Co., Inc., New York, N. Y., for the dropping of a line in his comment on "Industry Comment on Post-War." The idea Mr. Pennock wished to convey was that "We cannot hope, of course, that the abnormally high sales level being enjoyed now will be maintained, for an inevitable decline in purchasing power will cause a leveling off of sales."

the American Perfumer and ESSENTIAL OIL REVIEW

COSMETICS · SOAPS · FLAVORS

EST. 1906

HARLAND J. WRIGHT, *Editor and Publisher*

MYRA N. CONKLIN, *Managing Editor*

MAISON G. deNAVARRE, PH.C., B.S., *Technical Editor*

WILLIAM LAMBERT, *Business Manager*

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WE STILL

Roll out the Carpet

WHEN THE BUYER COMES TO TOWN.
THOUGH SHORTAGES ARE PLENTIFUL
WE NEVER LET HIM DOWN.

COURTESY IS CURRENCY
THAT JINGLES IN THE TILL.
ITS DIVIDENDS IN BUSINESS
ARE MORE PROFITS AND GOODWILL.

PRODUCTION CHOKED WITH BOTTLENECKS?
DELIVERIES NEED A CRUTCH?
A BUYER'S STILL A HUMAN.
WHY NOT TREAT THE GUY AS SUCH?

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desiderata

Comment on interesting new chemical developments and their application to cosmetics and toiletries.

by MAISON G. DeNAVARRE

LANOLIN SITUATION

The fact that lanolin is *not* on allocation is what confuses availability. The Department of Agriculture allocates all supplies of lanolin, neutral wool grease and the raw degras. Only very essential uses get a quota. Suppliers with stocks on hand can do nothing but what they are ordered to do, otherwise it is frozen. Ever since about four months ago no lanolin has found its way into the cosmetic industry. If there were any stocks on hand, these have undoubtedly dribbled out to a dangerous point, a fact not accepted by the agriculture authorities.

LANOLIN AVAILABILITY

A few companies may have a little but not the industry in general.

However, if you are going to go out of business because of inability to get even the 10 pounds under the small order exemption, then you can visit Washington and present your case for some lanolin. That is the only way you can get it.

Of course military needs come first. No one would have it otherwise. But I wonder if there isn't a more equitable way to handle the small supplies of lanolin on hand. True, drug users will, or, are getting 100 per cent of their needs; likewise it is true that actual lanolin has been set aside for the small order exemption. But it is also true that the cosmetic industry should get a small amount which can be used along with "stretchers" to keep in business. Even as tight as glycerine became, there was a mechanism whereby

M. G. DeNavarre at work in his laboratory

relief—even though slight—could be obtained through the small order exemption of *two drums, NOT ten pounds.*

It is doubtful at this writing if there is any relief in sight for some time to come. Accordingly, it is better that you gird yourselves for the worst. Better investigate all replacements such as concentrated water-in-oil emulsifiers, absorption bases and the many other specialties which are described in the new *Replacements Bulletin* No. 12, just off the press. The price is $1.00 with your order, while they last. The Bulletin is brought up to date and considerably expanded. The price is small if it will keep you in business. Whether or not you can buy the Bulletin, it is good that you learn how to get along without lanolin or better, how to make your supplies last longer—if you have any on hand.

LANOLIN STRETCHER

I have seen two replacements or stretchers for lanolin. Both have the color, part of the emollient effect, but only one has the tackiness and astringiness of the real thing. Both cost about the same as lanolin.

Besides these products which are sold as outright substitutes for lanolin, there are a number of absorption bases that possess tackiness because of the sterol content, or because of the lanolin content of the formula, making it a semisoft stringy type of product.

Either type of material can be used particularly in hand lotions, shaving creams, hand creams or perhaps even in lipsticks, if the lanolin is not used as a coupling agent.

RUG SHAMPOO

Products sold by this name are either dry or in the form of solutions. Their job is to wash rugs *clean*, produce a lot of foam and to keep as near the surface as possible so the rug is not wetted on the corded underside. Prior to the war, one could select any of several materials that would do the job well. Today however, it is another thing, because the good wetting agents are gone. However, a couple recently tested looked pretty good. One produces about twice the foam of the other, but it is just about double the price. Both work well with any of the sodium phosphates, the latter are claimed to be essential to do a *good* cleaning job on the rug. These two wetting and foaming agents lend themselves particularly to the dry type of rug shampoo or cleaner.

TRADE NAMES

For many years materials were described here, sometimes awkwardly, by a chemical name or other description, but never by a trade name. Today, with so many substitutes coming up, chemical names just don't fit. Thus Arlex describes a special type of sorbitol syrup, not just sorbitol syrup. Tegin is a very particular type of glyceryl mono-stearate, Silver Lake is a special talc, Sherolines are particular kinds of petrolatums, Powder Base No. 7 defies description as does Powder Base Z, Amerchol is a special mixture producing an absorption base, Methocel is a specific grade of methyl cellulose, and so on. Not to use trade names has been a matter of policy. Today many

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policies must be scrapped, but before doing so here, I would like to hear from readers, users of materials and suppliers alike. What is your pleasure? Shall we use trade names or continue as before? That is the question. Your answers will naturally be confidential.

WATER SOLUBLE PERFUMES

There are seven companies to my knowledge that offer perfume solubilizers to the trade under specialty names. Some are better than others. Some work better with a little alcohol, others require some propylene glycol. A couple of them have worked best in my hands. One in particular produces perfectly clear solutions of perfume in water when used in the ratio of five parts solubilizer to one part perfume. With the aid of these solubilizers you can also make creamed colognes because the materials are also emulsifiers.

CONTROL AND ANALYSIS

The literature of the cosmetic industry is not especially rich in procedures used in the "Production Control and Analysis of Cosmetics." Methods in use had to be picked up from here and there. New technicians found it difficult to get the information they wanted, because as yet the cosmetic industry has not reached a common level for the exchange of ideas. Realizing this need, I have undertaken the job of writing a book to correlate the various methods used in controlling cosmetic quality and cosmetic analysis.

THE AMERICAN PERFUMER will publish this new book in serial form. Later it will appear in book form.

"Production Control and Analysis of Cosmetics" is the result of assembling data from many sources. Some of the methods were used in my own laboratory. Others are in use in different cosmetic factories. Still others have been developed by those several eagles of the Food and Drug Administration who look upon Dr. Dan Dahle as their "boss." (Don't *ever* underestimate their ability.)

In any attempt of this kind there are going to be many faults when viewed by "expert chemists." Yet every first attempt goes through the same grief, eventually emerging as a worthwhile reference for beginners and old timers.

I know that the reviewers will tear it apart in one way or another, but I also know that a start has to be made somewhere and that someone must be offered up on the sacrificial altar. "To avoid criticism, do nothing, say nothing, be nothing." So if this book is to start the industry on its own, it will and must be criticized to get anywhere. So, good readers, don't spare the rod.

Questions and Answers

484 PHENYLMERCURIC COMPOUNDS

Q.: On page 27 of the November issue, we note the reply to question No. 469. We would like to obtain a copy of the article referred to and the name of the supplier of these compounds.

H. P.—CONNECTICUT.

A.: A reprint of the article together with the name of the supplier is being sent to you under separate cover. We hasten to call to your attention the fact that these compounds are freely available contrary to some of the rumors that are being passed around in the trade. They are supplied in several grades, and it is possible that one of the less expensive grades would serve your purpose.

485 ALUMINUM LACTATE

Q.: We are interested in using aluminum lactate in antiperspirant creams. We note that it is mentioned in deNavarre's "The Chemistry and Manufacture of Cosmetics." Can you give us any information about this product and its freedom from producing skin irritation?

R. D.—OREGON.

A.: Aluminum lactate has not been a regular article of commerce, although it can be purchased in small quantities from certain sources of supply. The citrate does not produce dermatitis nor does the acetate, acetotartrate or tartrate. It would be our guess that the lactate would probably not be irritating any more than would be the sulfate or the chloride, both of which are regularly used in antiperspirants. However, the acetate, acetotartrate and citrate are very poor antiperspirants. The citrate tends to precipitate on standing when in solution of 15 per cent or more. For effectiveness, your best bet is to use the chloride or sulfate, suitably buffered.

486 INSECT REPELLENTS

Q.: Kindly advise where I can obtain an efficient insect repellent that can be incorporated into cream or lotion.

B. T.—MAINE.

A.: All of the efficient insect repellents made today are taken up practically in their entirety by the Army and the Navy. The inefficient are useless to anyone. However, one product is occasionally available through a particular distributor whose name we have sent you under separate cover. We suggest that you write him. It is possible that small amounts may be purchased from time to time. This material can be put into creams or lotions. Other than this it is impossible to formulate such a product at this time. This situation may ease shortly.

487 VANISHING CREAMS

Q.: We have been making a vanishing cream for a few years but there always has been some water separation in certain shipments and some loss of material for the jars. Can you tell us how to overcome these things?

D. M.—MINNESOTA.

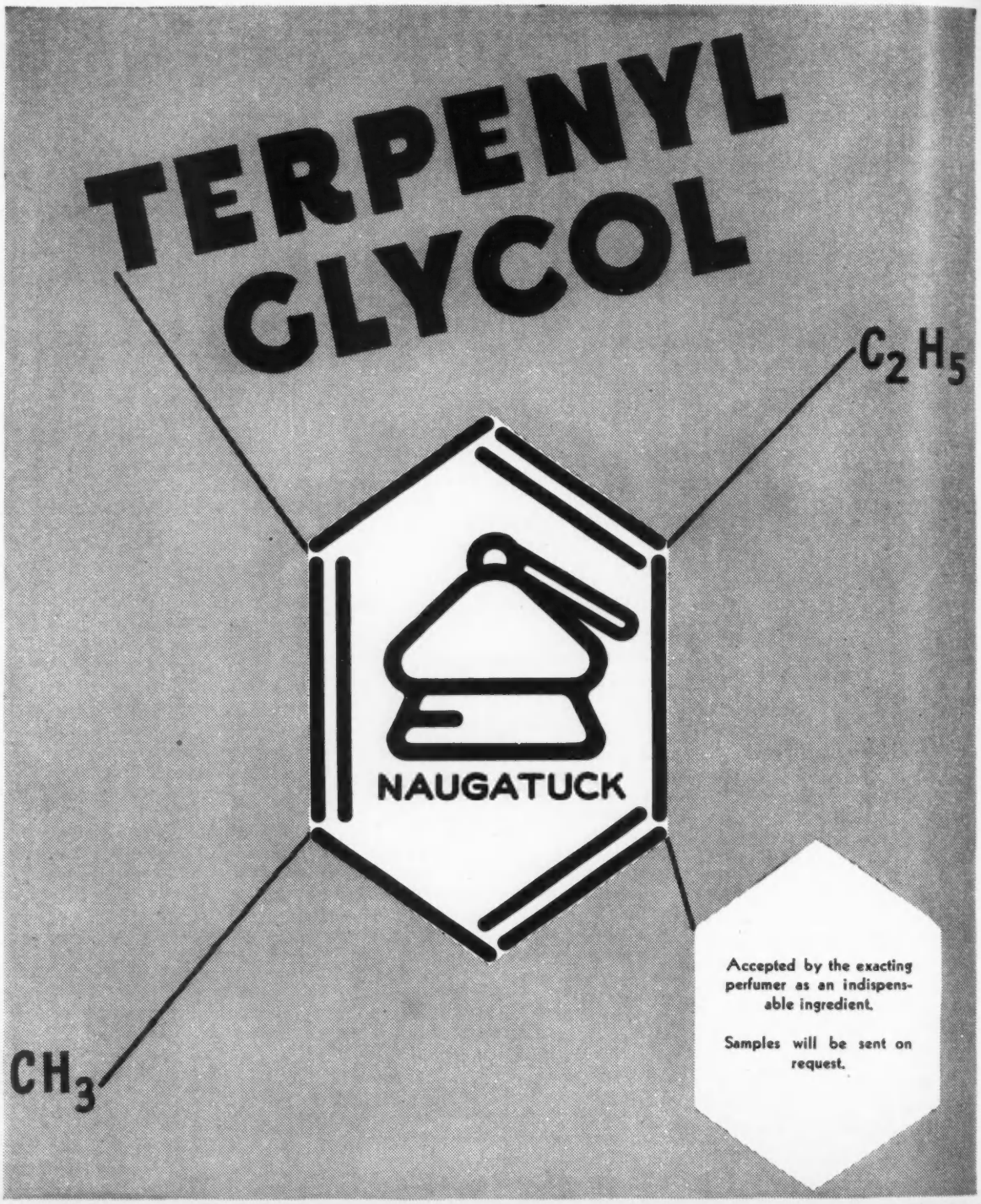
A.: Lots of things can go wrong with vanishing cream. It is almost impossible to prepare vanishing cream without encountering a certain amount of air. It is possible that you are entrapping more air than you should, and as a result, when the cream is shipped, it tends to settle in the jars because of the vibration in transportation. As far as the water separation is concerned, this may be due to filling the cream while it is warm and capping immediately. Water of condensation forms on the lid and may not be absorbed by the cream in the case of particular formulations. You might increase the amount of soap by increasing the amount of alkali and possibly adding a small amount of, say, propylene glyco stearate to aid in holding water.

488 HAIR LACQUERS

Q.: We have been making a hair lacquer from solubilized shellac. Since this went on allocation, we have tried to get other materials to take its place One of the rosin derivatives was found to be fairly satisfactory, but in view of the skin irritations resulting from hair lacquer pads made from shellac substitutes, we are reluctant to make the change. Can you make any suggestions?

N. Y.—MISSOURI.

A.: It is true that shellac is on allocation, but particularly since the flare-up of irritations resulting from the use of substitutes in hair lacquer pads, WPB has made allocations of shellac for use in hair lacquer. It is suggested that you write to your local WPB office for the necessary forms, stating exactly for what purpose you want the material. This shellac is made soluble by means of borax or sodium hydroxide, which technique can be found in any of several text books. Of course, there are also the soluble resins, gum acacia and synthetic cellulose derivatives which you might work with. Suitably plasticized, they should give a satisfactory product.



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Grass Oil Production of Middle America Expanding

Looking forward to supplementing Far Eastern grass oil supplies with oils produced in Western Hemisphere . . . Improved methods offer a challenge to present-day Pan-American experiments

by CHARLES MORROW WILSON

SINCE PEARL HARBOR tropical grass oils are beginning to win an important place in Middle-American agriculture and trade.

Japan had a part in it. During the first 90 days of 1942, which netted the little sneaky men about a quarter-billion square miles of tropical lands including the established sources of about 85 per cent of all tropical crops in international trade, the Nipponese also grabbed a momentary world monopoly of grass oils.

The latter includes the distilled essence of citronella or serch grass, lemon grass and vetivert, special and valuable oils which are meeting urgent war needs and durable peace needs. These essential oils are now the staple sources of many important aromatics, such as geraniol, citronellol esters, synthetic menthols and various other ingredients or starting materials which are regularly used in the manufacture of scented soaps, cosmetics, perfumes, pharmaceuticals and synthetic flavors; also for dozens of technical preparations such as insecticides, sprays, polishes and weather surfacing, particularly for aircraft.

INDUSTRIAL REQUIREMENTS

United States industry now requires more than 3000 tons per year of essential oils distilled from tropical grasses which until recently were grown and processed almost entirely in Java, Ceylon, Malaya, Madagascar, India and other eastern tropical areas which are either held outright by our enemies or seriously blockaded or impeded by the greatest of wars.

For many years tropical agriculturists have known that these valuable oil grasses can be grown in the American tropics, particularly in the lowlands or medium altitude areas of Central America, northern South America and the Caribbean islands. Before Pearl Harbor a few profitable grass oil plantations had been developed in neighbor nations, particularly in Guatemala and Brazil. But for several reasons the developments were limited. Most or perhaps all of the native "essence grasses" of the American tropics are comparatively low in oil content and have not been looked on as well suited to commercial cultivation. Also, needs of the United States for large quantities of grass oils are comparatively recent. Since World War I the industry has grown from comparatively casual to really essential. Until Pearl Harbor the production and distillation of oil grasses were primarily coolie labor enterprises with which the American tropics showed no real eagerness to compete. Particularly in India, Ceylon and Madagascar, desperately poor people, eager for the chance to earn a few pennies a day, harvested the wild grasses with hand sickles or knives, distilled the oil in crude home-built mud vats, then sold the poorly graded and badly polluted oils to native buyers for a few cents per gallon.

Only in Java was the agriculture of oil grasses well developed. As early as 1899, with the help of the Netherlands Government, citronella grass imported from Ceylon was planted in this richest and most populous of the Netherlands Indies. By 1934 Java alone was producing around 1800 tons of citronella oils per year as compared with 600 tons for all of Ceylon, original home of the crop. At the time of Pearl Harbor Java had about 50,000 acres of citronella grass in bearing and about 100 commercial distilleries plus about 80 comparatively primitive home distilleries, practically all of them in western areas of the island.

PROCESSING GRASS OILS

The Dutch leadership of Java had established the accepted routine for processing grass oils. The grass is mowed like hay and left to dry in the sun from a few fours to two or three

In Madagascar, coolie wage farmers are shown bringing lemon grass to the distilleries for sale.

days depending on the local climate and grass condition. Before distillation the grass is usually chopped to pieces with a mechanical ensillage cutter. Usually the stills are fired with "spent" grass or bagasse supplemented with wood. Direct fire stills and steam kettle stills were most commonly used to extract the valuable oils. As a rule the small growers in the Far East tropics distilled the oils in clay vats imbedded in stone hearths provided with a grid on which bundles of the grass were stacked. They heated the water beneath the grid with direct fire and stowed or tramped the grass into the still from a top manhole and discharged the bagasse from a side vent. During firing, the crude condensation liquids were collected in jugs which were placed at the bottom of the still's "crater."

But there is a distinct challenge for improved distillation technique. The steam must rise through the packed grass with sufficient force to penetrate the entire grass load evenly. Uniform temperature and pressure must be maintained throughout the distillation period, which averages three or four hours. Efficient transport and handling is imperative because oil recoveries average between one-half and one per cent of the weight of the cured grass. More recently large farming companies in the Far East have developed "battery" stills in which the steam is generated in a central boiler fueled with wood or spent grass. The chopped grass is placed in batteries of giant kettles each holding from 1000 to 2000 pounds. The kettles rest on revolving platforms, discharge the extracted oils into filter jugs and dump their contents of spent grass into catch cars when the operator pulls a lever or turns a spillage wheel.

CENTRAL AMERICAN OIL PLANTING

After Pearl Harbor and Japan's spectacular loot of the Far East tropics it was obvious that if the United States got any more essential oils, these would have to be grown and distilled in the American tropics. It was equally apparent that the United States must have essential oils to fulfill several hundred strategic war needs and to carry on flavor, pharmacy, cosmetics, soap and spray industries and other essential enterprises.

The net result is that Yankee ingenuity now joins hands with Central American farming skill to supply at least part of the essential oils which United States' industries need and must have.

The United Fruit Company now takes the lead in introducing essential oil grasses into the American tropics; the U. S. Sugar Corporation with 1200 acres of lemon grass already planted in Florida takes the lead in the United States. The story of these introductions is a repetition of the time-tested adages about mighty oaks growing from tiny acorns and necessity being mother of invention. In June 1941, company agriculturists succeeded in importing into lowland Honduras some 65 "mats" of citronella or serch grass and divided these into 596 new plants. By October 1941, this first handful was increased to half an acre of seed plantings. At present the plantings in the area of La Lima, Honduras, cover about 200 acres. It is a good start. The same company has recently instituted the planting of a few acres of vetivert—the best Java strains of another tropical grass which produces oil essence for fine perfumes.

LEMON GRASS

The story of lemon grass is similar. From a first tiny planting begun at La Lima, Honduras, in 1939 a seed bed of one and one half acres was developed. By 1942 this provided planting stock sufficient for 35 acres—in furrows 18 inches apart. Experimental harvests yielded about 13 tons of green grass per acre yearly. Early in 1942 the planting was expanded to 135 acres and more recently to about 200.

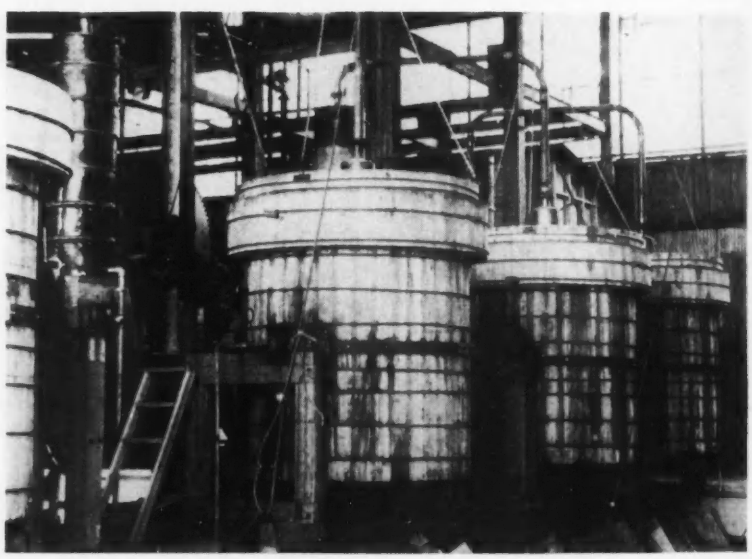
Tests in distillation showed first recoveries of about 97 pounds of lemon grass oil per acre and indicated that chopped grass yields about 40 per cent more oil than unchopped grass. The oil now in harvest has an unusually high citral content and otherwise is far above market specifications. In general the yields of citronella oil average about twice those of lemon grass or from 195 to 210 pounds of oil per acre yearly from three or four cuttings of the grass. No questions linger as to the quality of Middle American grass oils. Already the essential oils grown in the American tropics have won premium market gradings on the U. S. markets and grass oil products are continually being made better.

DISTILLATION OF OIL GRASS

The distillation of oil grass grown in the American tropics is an even more impressive proof of that promising virtue of Inter-American ingenuity. During the past 18 months neither the United Fruit Company nor any other producers of essential oils in the American tropics have been able to buy the necessary stills or the materials with which to build the grass distilleries. In every instance they are being forced to improvise by the use of just about any available junk or scrap metals or lumber or any other building materials which can be found close at hand.

Before Pearl Harbor there were at least three privately operated grass oil stills in Guatemala. All were small and more or less improvised.

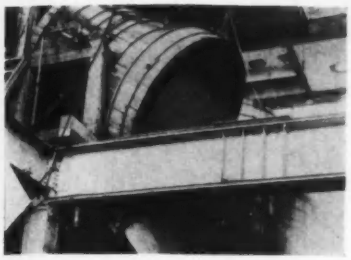
One of this hemisphere's biggest grass oil distillery, constructed and put into operation near La Lima, Honduras, by the Tela Railroad Company, a subsidiary of United Fruit, is strictly a flotsam factory. The first attempts at distilling the grass employed an old-style copper-vat still with a capacity of only a few hundred pounds of the dried chopped grass. Next the tropical neighbors began building wooden stills of 200 cubic feet capacity each and pivoted them on home-forged iron frames, then salvaged old boilers and discarded iron



Battery of stills used in distilling lemon grass and citronella, improvised from junk materials. Stills located in Honduras where United Fruit Co. is introducing these grasses.

pipe, therewith establishing a steam distributing system. The rather remarkable fact is now proved that the flotsam stills are working—perhaps more efficiently than the Javan stills which were so readily stolen by the Japs.

The U. S. Sugar Corporation launched its well studied and aggressive program for lemon grass planting in the area of Clewiston, Florida, during July, 1942. Apparently lower Florida's climate is not consistently

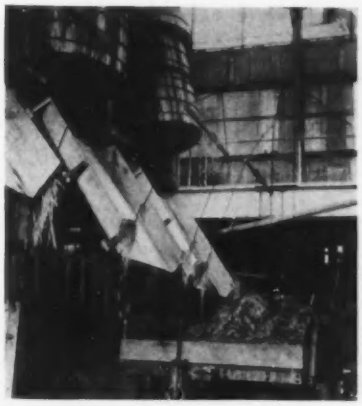


Emptying spent grass and liquid from the still —final stage. Flotsam still at Honduras.

warm enough to permit the profitable growing of the currently propagated strains of citronella grasses. It can and does produce lemon grass and the average of the United States has risen rapidly to 1200 acres—the largest central planting in the Western Hemisphere.

IMPORTANCE OF GRASSES

Determinedly and ingenuously the Americas are proving a place in the practical production of essential oils. Four years of World War II have further accentuated the fact that the grasses are the most numerous and valuable of all the immense roll of the vegetable kingdom. In addition to all the great pasture crops which are basic to our supplies of meat, milk, butter, eggs, poultry, leather and most other livestock products, the grass families include all the cereal grains which are still the number one foods of people; also sugar cane which supplies about four-fifths of mankind's sugar supply; and corn or maize, by far the largest and most valuable farm crop grown in the United States or the Western Hemisphere at large. In addition to grains, sugar, starches, livestock feeds, cellulose and other manufacturing materials and building materials, such as thatched roofs and grass striated adobe, the catalog of practical uses of grass is now enormously expanded by the use of essential oils. In terms of proved commercial uses the oils of citronella and lemon grass now for the first time are being produced in the American tropics and they are among the most versatile of all grass products. Today they are changed from "promising possibilities" to proved resources



Unloading chutes and railroad cars for hauling "spent" citronella and lemon grass to dump.

of the rich and too little developed American tropics and certain southernmost prongs of the United States.

MARKET VALUE OF OILS

While essential oils represent a comparatively small percentage of the value of the total United States prewar imports — around $10,000,000 a year—they are key products which are more or less essential to many great industries—perfume and cosmetics which represent a normal turnover of $350,000,000 a year, chewing gum, numerous confection and flavor industries and others. In all there are more than a hundred essential oils of market value. Of these the more important are petit-grain, derived from the leaf of bitter orange and normally produced in Paraguay and southern Europe; citronella; lemon grass or *limoncillo*; geranium ordinarily from Algiers; lavender from southern France; vetiver, a perfume essence grown in the Dutch East Indies; neroli from the flower of the bitter orange produced in Italy; jasmine, cinnamon cassie and the tuberose, all three from southern France; rose oil from Bulgaria; ylang-ylang from Madagascar; and bergamot, produced from oranges in southern Italy.

All these requirements of the cosmetic and perfume industries can be produced in Middle American terrains as current experiments are beginning to prove. The Jewish refugee colony at Sosua on the north shore of the Dominican Republic plans to specialize in essential oils and has made extensive plantings of citronella, lemon grass and ylang-ylang. The U. S. Agricultural Experiment Station in Puerto Rico is now experimenting in the production of citronella grass for the production of menthol. The station is also growing lemon grass, jasmine, gardenia, cassie and mimosa, and is further studying the possibility of obtaining an essential oil from the fragrant blossoms of the coffee tree. Pine and eucalyptus oils can unquestionably be produced in Middle America, if price and tariff standards permit. The same may hold for various medicinal and spice plants including pyrethrum, coriander, white mustard, poppy seed, goat's rue, marjoram, sage, ratany root and soapbark.

Also the pimenta or allspice and the laurel or the bay tree of the West Indies; the balsams of Peru and Central America and the tolu of El Salvador and Colombia; the copaiba which grows on the shores of the Oronoco; the linaloe of southern Mexico; and the palo rosa (*"Aniba Rosae Odora"*) of the Guianas and Brazil. Like the great palm crops, the essential oil crops are not yet sufficiently explored or sufficiently known.

PAPAYA FRUIT

Cuba, from which the new renowned papaya fruit has been transplanted to many lands of the tropical and subtropical world, is now taking steps to reintroduce the commercial cultivation of this immensely valuable tree and to take over some of the task of supplying the United States with papain, which is the dried latex from green papaya fruit. The papaya, sometimes called the tree melon but known to science as the *Carica Papaya*, is one of a long list of indigenous new world plants, such as quinine and rubber, which have been successfully exploited commercially in the Far East but not sufficiently exploited in their homelands. The fruit is a greenish-yellow melon shaped like a football though usually not nearly so large. Papain has a digestive enzyme resembling pepsin and it has numerous commercial and medicinal uses. It is used importantly in the treatment of diphtheria. It has the ability to make tough meat tender. In 1941 the United States imported about $453,000 worth of papain, most of it from Ceylon and other Far Eastern sources which are now cut off by the present war.

The harvest is straight forward and simple. Commercial papain is obtained by making cuts in the skin of the green papaya fruit. The latex then drips out into a cup. When dried it is ready to market. This latex extraction does not prevent the fruit from ripening. Haiti, Puerto Rico, Jamaica and Trinidad also produce small quantities of papain. The tree and its melon-like fruit are found in most of the islands of the Caribbean and in the coastal regions of the adjacent nations of Central and South America, also in Florida.

All told the Pan American future in essential oils is fast becoming a present.

Short Adages

by R. O'MATTICK

MR. A. GOODBUY, that charming but exacting buyer of essential oils, perfume compounds, waxes, colors and what-have-you-got, put up a wall motto for this year of 1944 in his inner office. This inner sanctum, by the way, is often spoken of as the filter-room by the office staff, as everything filters through there before the sample becomes a shipment or an offer an order. But to get back to the wall motto—it reads, "The difficult we do immediately; the impossible takes a little longer." We are told that many of the suppliers who call on Mr. Goodbuy are impressed with this motto and ship the drum of hydroxycitronellal the same morning instead of waiting for the next day's afternoon.

* * *

One reason why an election year isn't so good for business, says Sand L. Wood, that earnest and hard-working seller of essential oils, is because most buyers are talking about Roosevelt, Willkie and Dewey instead of Rosemary, Wintergreen and Dillweed.

* * *

Equipment Department: From one of our contemporary trade journals (in the classified want section) we extract this balsamic ad—

"Wanted: One stainless steel kettle with or without steam coils, with or without agitator, with or without stainless steel kettle."

What do you know? If you need it, we can't supply it.

* * *

Mr. Eric A. Johnston, president of the United States Chamber of Commerce, says that Americans are interested in investing money in Mexico. When it comes to things like toiletries, soaps, flavors and such, a number of leaders in the industry are not interested only in Mexico but in many other places South of the Rio Grande. If you haven't read the article "Opening the South American Market" by Frederic Rowe, in the January AMERICAN PERFUMER, you probably meant to. You still can. It's something to think about.

* * *

"We have been doing a little light reading over the week-end," writes Eugene Knowle to us. "One of the things we looked over was FDO 81, Amendment 1, Part 1440, Sections R, X and Z. Yes sir, it reminds us of our algebra days in high school.

This columnist has also read some of that "light reading" as Eugene calls it. The part that took us into the lower stratosphere or wherever it is that oxygen begins to get scarce, was the definition of business. To wit: "The term 'person' means any individual, partnership, association, business trust, corporation, or any organized group of persons, whether incorporated or not." (That leaves no one out except the cat.)

"The term 'oil of peppermint' means:" (This has a lot of that including but-not-limited-to stuff.)

Yes sir, menthol is defined and chewing gum and confectionery and lots of other things. So don't worry, now, just go and git you' pepomint."

* * *

We saw a memo which with our definitions will give you the general idea. The memo was:

"Send a salesman down to see Tom to find out why we don't get more business there."

The definitions are:

The term salesman means any representative, agent, employee, with or without push, drive, tact, swagger, know-how and pep. It includes but is not limited to the office boy, members of the board of directors, executive officers, shipping clerk, efficiency expert or whoever is available.

The term business means one or more orders, without or with confirmation, with or without profit, and, if, when and as delivered, container extra and returnable, contents subject to prior sale.

* * *

We attended the annual meeting and banquet of Ye Essential Oil Association of U. S. A. and most of those present didn't talk about candidates, essential oils or anything else on the serious side. They just seemed to be having a general good time. Dr. Rowmateral, who has been present at every annual meeting including the year of the Great Blizzard, states that this was the best and most interesting get-together of all. It is reported that the turnout was larger than ever and the new setting also seemed to pep things up.

* * *

We know of one man in this industry who has never gone *down* to Washington. His business is located in Alabama so he goes *up* to Washington. The rest of this item was jotted down on the back of an envelope (in pencil) on the way *down* to Washington. Unfortunately, by the time we saw the man there who was the third assistant to the man we were anxious to see, the pencilled notation became blurred as did our memory and so we can't recall the point of this item but it did seem amusing on our way down to Washington.

* * *

Perhaps the gentry who froze peppermint thought you could get some menthol crystals to come out of it. You *can*, by the right kind of freezing process. During our school days we learned that freezing results from the removal of enough heat. But now there are, alas, two kinds: (a) the old-fashioned winter type and (b) the Washington type —where freezing causes the heat to be turned on. This brings us back to our post-war thoughts when perfume and cosmetic manufacturers will have their Four Freedoms once again:

Freedom from Freezing
Prevention of Priorities
Abolition of Allocations
Short-circuit of Shortages.

"I know we're a perfume house, my boy, but when you're flying over Tokyo will you drop this stink bomb with the compliments of our laboratory."

How to Select an Odor Scientifically

A study of the effect of different types of odors upon people of different ages and sexes shows it is wise to select a successful odor scientifically, not by the judgment of a few individuals

by F. AUMUELLER

The Cramer-Krasselt Company, Milwaukee, Wisconsin

THE HISTORY OF THE world has been profoundly affected by mankind's constant search for pleasant odors. Many of the early explorers, if the real truth were known, were not looking for new lands to conquer but for plentiful supplies of odorous substances. Despite this age-long interest in odors the sense of smell, of all the five human senses, has probably received the least consideration and study.

Unlike the senses of sight and hearing the twin senses of smell and taste are not dependent upon wave motions, such as light and sound are, to produce a mental reaction. The sense of smell is activated by actual physical contact with minute particles of the odorous article in the air passages of the nose. The same is true of the sense of taste which sends a message to the brain only when the article is actually taken into the mouth.

TASTE AND SMELL CORRELATED

Because the nasal and oral passages are connected it is often impossible to distinguish definitely between the odor and the flavor of an article. For instance, when eating strawberries, a part of what we consider a taste sensation is really our sense of smell functioning in close collaboration with the sense of taste. As further proof, when a head cold clogs the nasal passages putting the sense of smell out of commission, the taste sense is also profoundly affected, all food stuffs then seeming quite tasteless. In reality both odors and flavors are caused by a chemical action taking place on the moist membranes of the nose and mouth when they are touched by substances.

Odors are not as readily classified into groups as are the sensations which reach us through the eye and ear. Our sense of sight provides us with several distinct impressions at a single glance—the shape, texture and size of an object, color. Similarly, sounds affect the ear in various ways, being loud or soft, etc.

Several ways of grouping odors have been suggested. We have chosen grouping A which appears to afford a more detailed classification and is used below in clarifying the sensations suggested:

Flowery: Rose, violet, jasmine, heliotrope, lavender, lilac, carnation, lily of the valley, honey.

Fruity: Orange, lemon, pineapple, peach, grape, canteloupe, apple, olive oil, vinegar, cider, strawberry, raspberry.

Spicy: Cinnamon, cloves, nutmeg, sage, caraway, chocolate, tea, vanilla, wintergreen, peppermint, sarsaparilla.

Resinous: Camphor, cedar, balsam, pine, menthol, witch hazel, turpentine.

Burnt: Coffee, maple, tobacco, tar, smoked meats.

Putrid: Rubber, onion, garlic, sauerkraut, fish, lard, kerosene, gasoline, perspiration.

COMPOUND OR COMPLEX ODORS

In addition to these six classifications there are many odors which partake of the qualities of two or more groups simultaneously, and these may be considered as compound or complex.

Furthermore, another factor sometimes enters into the sensation of smell; namely, pungency, a quality which is really a part of the sense of touch. It causes a tickling sensation in the passages of the nose, sometimes resulting in a sneeze, as in the case of pepper.

As is the case in so many things individuals react differently to a given odor. For instance, some persons may have a great liking for the odor of a rose, whereas others may dislike it, while still others don't care one way or the other. Consequently, when considering the effect an odor might have on the sale of a product, a sizable cross-section should be analyzed to secure an accurate average reaction.

ODOR PREFERENCES STUDIED

With this end in view a study of odor preferences was undertaken among several hundred persons of both sexes, of all ages and living in various parts of the country.

To provide an over-all picture, Table I shows the reactions of all persons regardless of sex, age or any other grouping to the different odors chosen for the test. Each odor is divided into four percentages, according to whether the odor was liked or disliked, whether the respondent was neutral (neither liked it nor disliked it) and finally a group which failed to reply.

Table I—Reaction of the General Public to Odors

FLOWERY	LIKE PER CENT	NEUTRAL PER CENT	DISLIKE PER CENT	NO REPLY PER CENT
Rose	85	13	2	0
Violet	77	17	5	1
Jasmine	38	43	13	6
Heliotrope	43	36	16	5
Lavender	55	29	12	4
Lilac	83	12	4	1
Carnation	65	19	13	3
Lily of the Valley	77	17	4	2
Honey	38	48	11	3
FRUITY	**LIKE PER CENT**	**NEUTRAL PER CENT**	**DISLIKE PER CENT**	**NO REPLY PER CENT**
Orange	63	29	7	1
Lemon	52	34	13	1
Pineapple	60	31	8	1
Peach	52	41	6	1
Grape	47	36	16	1
Canteloupe	49	34	15	2
Apple	67	27	4	2
Olive Oil	6	23	70	1
Vinegar	11	33	54	2
Cider	33	38	28	1
Strawberry	68	26	5	1
Raspberry	63	31	5	1

SPICY	LIKE PER CENT	NEUTRAL PER CENT	DISLIKE PER CENT	NO REPLY PER CENT
Cinnamon	56	33	10	1
Clove	47	30	22	1
Nutmeg	35	36	27	2
Sage	24	42	31	3
Caraway	30	40	28	2
Chocolate	66	27	6	1
Tea	37	44	18	1
Vanilla	62	28	8	2
Wintergreen	67	22	9	2
Peppermint	63	25	11	1
Sarsaparilla	22	50	23	5

RESINOUS	LIKE PER CENT	NEUTRAL PER CENT	DISLIKE PER CENT	NO REPLY PER CENT
Camphor	38	28	34	0
Cedar	73	17	9	1
Balsam	76	15	7	2
Pine	83	13	2	2
Witch Hazel	39	47	12	2
Menthol	43	37	19	1
Turpentine	11	24	63	2

BURNT	LIKE PER CENT	NEUTRAL PER CENT	DISLIKE PER CENT	NO REPLY PER CENT
Coffee	76	16	7	1
Maple	48	33	18	1
Tobacco	35	28	36	1
Tar	26	21	52	1
Smoked Meats	25	34	40	1

PUTRID	LIKE PER CENT	NEUTRAL PER CENT	DISLIKE PER CENT	NO REPLY PER CENT
Rubber	4	13	81	2
Onion	13	21	66	0
Garlic	1	6	92	1
Sauerkraut	21	25	53	1
Fish	10	19	70	1
Lard	2	18	79	1
Kerosene	7	15	77	1
Gasoline	17	23	59	1
Perspiration	0	1	97	2

From the above table it is quite apparent that more people like the flowery group of odors than any other. Resinous, fruity and spicy odors are also well-liked, while as a general rule the burnt and putrid odors as groups are not liked, as might have been expected.

While Table I includes persons of both sexes, Table II has been broken down into men and women, and it is interesting to note the different reactions of the two groups. To simplify the table, only the percentage of men and women who like a given odor are shown.

Table II—Comparison of Odors Liked by Men and Women

FLOWERY	MEN PER CENT	WOMEN PER CENT
Rose	84	86
Violet	80	74
Jasmine	30	46
Heliotrope	40	46
Lavender	47	63
Lilac	85	81
Carnation	63	66
Lily of the Valley	67	86
Honey	39	37

FRUITY	MEN PER CENT	WOMEN PER CENT
Orange	61	65
Lemon	48	55
Pineapple	50	70
Peach	45	58
Grape	41	53
Canteloupe	46	52
Apple	67	67
Olive Oil	6	6
Vinegar	9	13
Cider	36	31
Strawberry	59	77
Raspberry	51	76

SPICY	MEN PER CENT	WOMEN PER CENT
Cinnamon	46	65
Clove	35	59
Nutmeg	31	39
Sage	23	26
Caraway	28	33
Chocolate	65	66
Tea	26	47
Vanilla	57	67
Wintergreen	68	66
Peppermint	67	59
Sarsaparilla	25	19

RESINOUS	MEN PER CENT	WOMEN PER CENT
Camphor	34	43
Cedar	73	72
Balsam	73	79
Pine	86	81
Witch Hazel	40	37
Menthol	47	39
Turpentine	12	9

BURNT	MEN PER CENT	WOMEN PER CENT
Coffee	75	78
Maple	48	48
Tobacco	48	21
Tar	28	25
Smoked Meats	30	20

PUTRID	MEN PER CENT	WOMEN PER CENT
Rubber	3	4
Onion	14	12
Garlic	1	1
Sauerkraut	22	20
Fish	9	10
Lard	2	3
Kerosene	5	8
Gasoline	21	13
Perspiration	0	0

The foregoing table indicates that women, generally speaking, prefer the flowery, fruity and spicy odors, while men like the resinous and burnt odors somewhat better than women.

ODOR PREFERENCES BY AGE GROUPS

Table III shows the odor preferences reclassified by age groups, each group containing members of both sexes. Percentages indicate that part of all persons in the age group who like the odor.

Table III—Comparison of Odor Preferences by Age Groups

FLOWERY	UNDER 25 YEARS PER CENT	25 TO 45 YEARS PER CENT	OVER 45 YEARS PER CENT
Rose	83	84	83
Violet	71	75	92
Jasmine	28	49	50
Heliotrope	35	45	58
Lavender	58	56	50
Lilac	85	84	71
Carnation	62	61	71
Lily of the Valley	78	80	71
Honey	35	36	63

FRUITY	UNDER 25 YEARS PER CENT	25 TO 45 YEARS PER CENT	OVER 45 YEARS PER CENT
Orange	56	68	63
Lemon	44	56	58
Pineapple	58	64	58
Peach	48	49	58
Grape	46	47	46
Canteloupe	46	53	50
Apple	63	71	63
Olive Oil	4	4	13
Vinegar	10	12	13
Cider	36	33	25
Strawberry	66	74	71
Raspberry	61	64	67

SPICY	UNDER 25 YEARS PER CENT	25 TO 45 YEARS PER CENT	OVER 45 YEARS PER CENT
Cinnamon	52	55	63
Clove	52	48	42
Nutmeg	38	39	39
Sage	26	28	25
Caraway	34	32	33
Chocolate	70	65	42
Tea	41	39	33
Vanilla	59	66	63
Wintergreen	69		71
Peppermint	63	63	63
Sarsaparilla	54		33

RESINOUS	UNDER 25 YEARS PER CENT	25 TO 45 YEARS PER CENT	OVER 45 YEARS PER CENT
Camphor	33	41	33
Cedar	74	72	71
Balsam	77	77	75
Pine	81	85	83
Witch Hazel	23	51	21
Menthol	34		38
Turpentine	4	16	8

BURNT	UNDER 25 YEARS PER CENT	25 TO 45 YEARS PER CENT	OVER 45 YEARS PER CENT
Coffee	73	81	75
Maple	46	50	50
Tobacco	28	39	29
Tar	15	31	38
Smoked Meats	15	28	46

PUTRID	UNDER 25 YEARS PER CENT	25 TO 45 YEARS PER CENT	OVER 45 YEARS PER CENT
Rubber	3	3	0
Onion	12	5	29
Garlic	1		4
Sauerkraut	25	16	25
Fish	11	9	8
Lard	1	3	8
Kerosene	6	9	0
Gasoline	24	17	0
Perspiration	0	0	0

Some odors above show quite a marked difference in preference. Jasmine and heliotrope, which are rather old-fashioned flowers, have a decided preference among older persons. On the other hand, chocolate is best liked by the youngest age group. Onion and garlic odors are liked best in the oldest group. Interesting to note is the falling off in the preference for the gasoline odor as persons grow older. Evidently the youngest generation, raised with the automobile, has learned to associate the odor of gasoline with good times, hence nearly one out of every four likes it.

It is a dangerous practice to depend on the preferences of one individual, or even a small group of persons, when making a choice of odors that will affect the sale of an article of merchandise. The foregoing averages will prove a much more reliable guide in making such a selection.

Plastics' Place in the Cosmetic Industry

The different types of plastics are described together with their value to the cosmetics industry . . . The future of the cellulosic thermoplastics discussed

by BURTON E. CASH

Plastics Division in charge of molding material development, Celanese Corp. of America

PLASTICS have been used quite extensively by the cosmetics industry in the past. The present trend suggests that plastics will be used in greater volume in the future. It, therefore, seems opportune that a discussion of plastics and their applicability to such a growing and useful industry should take place at this time.

A quick glance at some of the current plastic applications reveals such items as closures for all kinds of bottles and containers for rouge, face powder and creams. Compacts and lipstick holders also represent useful and colorful items, many of which are fabricated from plastics. Plastic vials, bottles and tubes, are used for the attractive packaging of cosmetic accessories—not only for protection against dust and dirt—but also to enhance their general sales appeal. The use of very thin sheets of plastic for wrapping and packaging media is rather widespread.

Probably in no other industry is competition so dependent upon the attractive and enticing packaging and display of its goods. Unless one is well grounded in the forms in which the various plastics are produced, and some of their more important chemical and physical characteristics, it would be impossible to intelligently apply any of them to the cosmetics trade. We will, therefore, first discuss the various forms in which plastics are available to the cosmetics industry. This discussion centers around molding materials, rods and tubes, film, foil and sheets.

The majority of plastic sheeting is produced up to 20 in. by 50 in. in area. They range in thickness from .005 in. to .375 in. or greater. Color availability is unlimited—ranging from crystal clear transparents to opaques. One may also select sheets manufactured with regular designs or patterns in an endless variety of colors. If it is desired, plastic sheeting can be obtained in colors simulating rare woods and precious stones.

There are many ways in which plastic sheets can be fabricated into items of value to the cosmetics industry. They may be machined and assembled like wood by drilling, tapping, sawing, routing, turning and cementing. Regular woodworking equipment and techniques are generally applicable to plastics. Unlike wood, most plastic sheets can be punched or blanked by methods similar to those used with metal sheets. An additional advantage of considerable merit in the use of some types of plastic sheets is their ability to soften under heat and be formed by bending, drawing or molding into complex and attractive shapes which are permanently maintained upon cooling. Sheets fabricated by any of these mechanical or thermal methods may be assembled into boxes, large display stands or supports, etc., by cementing, or with screws and rivets.

PRODUCTION OF FILM

Plastic films are usually produced in clear transparent, but a wide variety of transparent colors through dark reds and blues and greens are also available. Films vary in thickness generally from .003 in. to .020 in. They are produced in continuous lengths and in widths up to about 42 in.

There are two methods in general use for processing film into items used by the cosmetics industry. The simplest method is to blank out profiles which in turn are folded or creased to form boxes or are rolled and cemented along the seams to form cylinders. The edges can then be beaded and closed with circular discs or covers. The seams in such parts can also be stitched or stapled together. The other method is a heat drawing or swaging operation which is used to form dome or irregular shaped containers and covers. Plastic covers to slide over paper powder boxes, covers for powder puffs, and various types of transparent cylindrical or rectangular box-like decorative containers are produced from film by one or both of these methods.

Foil can be considered as film that is less than .003 in. in thickness. Foil is too thin for good operation in swaging or drawing equipment. It is used by the cosmetics trade for transparent windows in cartons and envelopes, transparent sealing tape, and as an outside wrapping media for the protection and beautification of merchandise.

RODS AND TUBES

Rods and tubes are of considerable interest to the cosmetics industry, much for the same reason that sheets are. A large variety of tube sizes are produced and both tubes and rods are available in diameters up to about 2½ in. All of the machining operations which can be performed on sheets apply to rods and tubes. Certain types can also be heat formed and shaped. The color range is almost as great as obtained with sheets. Rouge cases, compacts and handles, are a few items that may be machined from rods; lipstick holders, lip medication applicators and rings, are in some instances machined from tubes. We shall mention later on how these same items are being fabricated in other ways. When more than one method of manufacture appears feasible, the choice resolves itself into a consideration of cost, color effects desired, or the number of units required.

A very large proportion of the plastic items in use today by the cosmetics industry are molded from molding material. A greater variety of intricate shapes can be more economically and

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more rapidly produced by molding than by machining. The choice of colors in molding materials is almost as wide as in sheet stock. Due to basic differences in manufacture and subsequent fabrication, one cannot expect in molding materials the controlled geometric color configurations that can be obtained in sheets. Random mottles of two or more color components are produced, however, and are both practical and attractive.

No discussion of the forms in which plastics are available to the cosmetics industry would be complete without mention of the fact that a huge number of tubes and bottles are being produced by a combination dipping and blowing process. The basis of this process again is the fact that films of some plastics can be softened by heat and shaped into numerous designs of thin walled, light, and sturdy objects.

This brief review of the various forms in which plastics are procurable for final fabrication, and of the processing techniques generally used in preparing articles for the cosmetics trade, completes only one half of the story. The other half is fully as important and involves a consideration of the basic chemical and physical characteristics of plastics. It is of fundamental importance to understand both sides of the story so that the proper plastic material will be selected for each cosmetic use.

CHEMICAL, PHYSICAL PROPERTIES

In discussing the chemical and physical properties of plastics, the first point to remember is that they are each chemically different from one another. For this reason they all have different physical or mechanical properties. However, there are certain similarities among their properties which permit the subdivision of the plastics into groups for convenience of discussion. Behavior under heat is a property which can be used to classify plastics into two groups; namely, thermosetting and thermoplastic. The thermosetting plastics undergo chemical changes due to the heat used in their molding, giving a finished article which will no longer flow or mold at elevated temperatures; that is, they "set" or "cure" during molding, and thereafter cannot be resoftened. The thermoplastics, on the other hand, do not undergo chemical changes at molding or forming temperatures. They are rigid and form-stable at normal temperatures, become soft and flowable at elevated temperatures and resume their rigidity when cooled to normal temperatures. If heated again, the molded or formed parts will become soft at elevated temperatures, so that their use is limited to temperatures below their heat distortion point. This difference in their behavior under heat forms the basis for the broad classification of plastics into two types, thermosetting and thermoplastic.

Thermosetting Plastics

The thermosetting plastics which are of particular interest to the cosmetics industry are phenol formaldehyde molding compounds, cast phenol formaldehyde rods, tubes and shapes, and urea formaldehyde molding compounds.

PHENOL FORMALDEHYDE

Phenol formaldehyde molding compounds are of interest where low cost is important and color is not a major factor. Only opaque colors can be made, and even these are principally confined to blacks, browns and rather dull shades. Their advantage lies in their excellent resistance to high temperature, moisture and many chemicals. Lipstick holders are a good illustration of their use in the cosmetics trade.

Cast phenol formaldehyde shapes offer much more attractive color possibilities than the molding compounds. They are provided in transparents, translucents, opaques and mottles. They are not as heat stable nor as chemically resistant as the phenol formaldehyde molding compounds, but are still adequate for many cosmetic uses. A serious disadvantage to their use is that machining operations are required in fabricating articles from them since they cannot be molded. Rouge boxes are a typical example of their use in cosmetics.

UREA FORMALDEHYDE

Urea formaldehyde molding compounds offer a greater color range than those made from phenol formaldehyde, but are also less form-stable. They are produced in light attractive shades, which may vary from translucent to opaque. Transparents are not possible. They will not stand high temperatures as well as the phenolics, nor is their resistance to moisture and chemicals as good. However, they have proven very useful in the cosmetics field, in items such as closures and display stands.

A common property of all of these thermosetting plastics is low impact strength and brittleness. It is for this reason that they cannot be made in the form of film, foil or thin sheets. For the same reason articles made from them must be designed with quite heavy cross-sections, since thin sections will result in excessive breakage.

Thermoplastics

There is such a large group of thermoplastics in use by the cosmetics industry that it is desirable to subdivide them into two groups. Since both chemically and physically the resinous thermoplastics differ from the cellulosic thermoplastics, it is convenient to treat them as two separate groups, keeping in mind, of course, that they all share the characteristic property of being thermoplastic.

RESINOUS THERMOPLASTICS

There are two resinous thermoplastics which have found considerable use in cosmetic applications; namely, polystyrene and methyl methacrylate. Both are produced in the form of molding material, rods and tubes. Due to its excessive brittleness, polystyrene is not suitable for use as a sheet, whereas methyl methacrylate, although too brittle for sheets below .060 in. thickness, is practical in the thicker sheets.

Both polystyrene and methyl methacrylate provide an excellent range of color. They are the clearest plastics yet produced, and are provided in a brilliant series of transparent shades. They can also be furnished in translucents and opaques, but are generally confined to plain colors. Mottles and geometrical configurations, such as may be obtained in the cellulosics, are not generally feasible with either polystyrene or methyl methacrylate. However, the brilliance of the colors which are available has led to the widespread use of these resinous thermoplastics in cosmetic items, such as compacts and utility cases.

These resinous thermoplastics are about as brittle as the thermosetting compounds. Good design therefore must be based on a recognition of this fact and cross-sections made heavy enough to counterbalance this defect. Additional evidence of this brittleness is the fact that methyl methacrylate sheets cannot be punched without cracking, nor handled with the same facility as those of the cellulosics.

CELLULOSIC THERMOPLASTICS

There are four types of cellulosic thermoplastic compounds which are of interest to the cosmetics industry. Three of them; namely, cellulose nitrate, cellulose acetate, and cellulose acetate butyrate, have been used widely and are well established. Ethyl cellulose, however, is a relative newcomer to the field of plastics and its application to cosmetic uses has not yet been thoroughly established. All of these materials lend themselves to the production of molding materials, sheets, rods and tubes, and film and foil, with the exception of cellulose nitrate. Because of the flammable nature of this member of the cellulosics, it is not produced in the form of molding granules or foil.

The cellulosics offer the widest range of color selection of any of the plastics.

They may be varied all the way from clear transparent to opaque, and are also made in an infinite variety of mottles, pearls, and geometrical configurations which cannot be provided in other types of plastics. In transparent colors, the cellulosics do not afford quite as high clarity as do polystyrene and methyl methacrylate. However, recent accomplishments of the research laboratories indicate that before long the clarity and brilliance of cellulosic plastics will be second to none.

VARIETY OF CELLULOSIC PLASTICS

Complementing their broad color range, an important feature of the cellulosic plastics is the wide selection of formulas which they offer. Each of them is produced in a whole family of compounds, tailor-made for the job in hand to a degree that is not possible with other types of plastics. This makes it possible in most instances to adapt the plastic to the part, rather than having to adapt the part to the plastic. This characteristic permits of a wide selection in adapting a cellulosic plastic to a fabricating method. In the case of the thermosets and resinous thermoplastic materials, it is necessary to adapt the job to the compound in many instances.

The outstanding physical characteristic of the cellulosic plastics is their toughness. Because of this, containers made from film are quite practical, and moldings with thin cross-sections have considerable strength. Thin walled lipstick tubes are a good example. These tubes can stand a great deal of abuse without breakage or permanent distortion. Articles prepared from a cellulosic film are virtually indestructible and defy the roughest handling.

HUMIDITY EFFECT

The cellulosic compounds are affected dimensionally by extreme changes in humidity, more so than either the thermosetting compounds or the resinous thermoplastics. This limitation, however, is not usually serious for the conditions of use prevailing in the cosmetics industry and can generally be overcome by proper design of the part and correct selection of compound.

An important consideration in the use of any plastic, particularly by the cosmetics trade, is so-called "chemical or solvent resistance." Chemical resistance is a quality which cannot be defined in a few words. For example, the statement that a particular plastic is resistant to the action of a certain cream implies:

1. That the plastic imparts no objectionable odor or aroma to the cream.

2. That it causes no separation of the emulsion if it happens to be of that type.

3. That the cream neither discolors the plastic nor the plastic discolors the cream.

4. That there is no softening or hardening of the plastic by the ingredients of the cream. In some cases, questions of taste impartation may arise.

Because of the variety of chemical compositions encountered in both plastics and cosmetics, it is impossible to predict the resistance of a particular plastic to a cosmetic preparation. It is mandatory therefore that in most instances the question of chemical resistance be settled on the basis of separate specific tests and the suitability of a particular compound be judged accordingly.

We have reviewed the plastics which are of prime concern to the cosmetics industry. It is apparent that, because of the variety of plastic forms with which this industry has to work and the widely differing chemical and physical characteristics of the plastic compounds themselves, care must be exercised in applying them to cosmetic uses. It is also evident that no one plastic type can be applied universally. It is logical, therefore, to consider first the essential requirements of a use one has in mind and then the various methods by which the item can be fabricated. A review of the forms and the properties of the plastics in those forms will dictate which of the plastics should logically be used for the manufacture of the item. If plastics are properly selected and intelligently used, there is every reason to believe they can do much to beautify and add to the utility of the indispensable merchandise of cosmetics industry.

Monopoly of Color Shade Names

PERHAPS IT WOULD be helpful to members of the toilet goods industry to clarify somewhat, if possible, the question of the selection and use of color shade names employed in connection with shades of such products as face powder, rouge, nail polish, compacts and the like.

It is intended herein, not so much to explain the selection and use of color shade names from a legal standpoint as to point out some of the factors which must be taken into account in the selection of new names and in the use of old names to identify specific color shades.

TWO CLASSES OF SHADE NAMES

Such shade names, according to Hugo Mock, counsel for the Toilet Goods Ass'n, Inc., New York, N. Y., may be broadly divided into two classes, namely:

1. Names intended to guide the purchaser and user of these products in the selection of a desired shade for her use, but in which names the manufacturer claims no exclusivity. In this class belong all of the shade names which are clearly public property and can be freely used by all members of the industry and which are intended to define accurately the shades in question. To this class belong such names as Rachelle, Naturalle, Blanche, Rose, Violet, Mauresque, etc.

2. Shade names which are originated by an individual manufacturer which may have a permanent place in the advertising promotion of the particular manufacturer and which names the manufacturer uses to identify the particular shades of his products and in which the manufacturer claims a monopoly.

DESCRIPTIVE NAMES

In Class 1 the question is merely one of selecting a name which is purely descriptive. Such shade names include the names well recognized in the trade as being public property by reason of long and well recognized usage and which can be readily identified in color guides and other publications relating to color such as "A Directory of Color" by Mearz and Paul, various year books of the American Association of Textile Chemists and Colorists, "Historical Color Guide," by Elizabeth Burris-Meyer, and various trade price lists and catalogs relating to specific dyestuffs and colors sold by individual companies.

In Class 2 the shade name which is intended to be owned and used exclusively by one manufacturer or brand owner requires greater care in its selection as originally it must be capable of monopolizing the same as other trade marks and it must not have been previously used in this or other industries to characterize the shade in question.

It is thought, for instance, that a name such as "Wrath" which characterizes a gray color in the "Historical Color Guide" might possibly be used for a red lipstick, as it would be clear that the new use of the name would be arbitrary and fanciful.

In addition, of course, such new names should not conflict with existing trade marks in the industry.

Scientific Section Meeting of the Toilet Goods Association

First meeting of the Scientific Section of the T.G.A. attended by over 250 . . . Abstract of papers presented attest to interest created and to the general success of this first meeting

THE FIRST meeting of the recently formed Scientific Section of the Toilet Goods Association was held on January 26th at the Hotel Waldorf-Astoria in New York City. Over 270 members and guests were in attendance.

The morning session was opened with an address of welcome by H. L. Brooks, president of the Association. Mr. Brooks then turned the meeting over to H. D. Goulden, Section chairman.

The first address of the morning session was on the subject of "Bromo Acid Solvents," presented by J. H. Hall, director of research, Pond's Extract Co., Clinton, Conn. A brief abstract of his talk follows:

BROMO ACID SOLVENTS

The solubility of bromo acid (D and C Red No. 21) has been studied from the standpoint of finding a good solvent suitable for use in lipsticks. Aliphatic compounds were found to be poorer solvents than benzene compounds. Unsaturated compounds, ethers, alcohols, aldehydes and ketones were also good solvents. Ethers of six to nine carbon atoms were among the best solvents. Examples of the various types are given. All of the solvents tested were found to have good staining power and the ability to produce a stain free from any blue undertone. However, the solvents studied were rejected because of toxicity, incompatibility with the lipstick mass, volatility, bad flavor or effect on the metal case. Propylene glycol proved to be the most promising in that it had all the desired properties with the exception that in the formulation tried there was a slight tendency of the lipstick to sweat.

This paper after some discussion was followed by a talk on "Plastics for the Cosmetic Industry," given by B. E. Cash, Molding Material Development, Celanese Corporation of America. This paper is reprinted in full in this issue. see page 41.

The next subject to be taken up was "Determination of Lead in Chromium Oxide," by W. C. Bainbridge, technical director, H. Khonstamm & Co., Inc. A summary of his speech follows:

DETERMINATION OF LEAD IN CHROMIUM OXIDE

In the determination of lead in chromic oxide greens one is faced with the insolubility of these substances. They are not dissolved by the usual nitric and sulfuric acid treatment. This difficulty has been overcome by oxidizing the chromic oxides to the water soluble chromic acid by means of perchloric acid. The resulting solution may be analyzed for lead by dithizone method.

The next paper was a most interesting treatise on a "Newly Developed Technique of Measuring Skin Color," presented by D. F. Nealon, of the National Toilet Company of Paris, Tenn.

NEWLY DEVELOPED TECHNIQUE OF MEASURING SKIN COLOR

Mr. Nealon outlined the formation and chemical structure of melanin, the coloring pigment of the human skin, as well as the means of measuring this color, and also a method of controlled photography in which the only remaining variable is the color of the skin.

Experiments had been made of the results of a three per cent ammoniated mercury face cream known as a bleaching cream, on the whitening of the skin. An average skin lightening was obtained of 15.71 per cent. Samples were taken at two-week intervals. The finished pictures thus represented color comparison charts in which the constant color scales were directly related to the subject's skin color. Finally the photographs are measured by a photoelectric cell device which gives an exact measure of the lightness of the skin area and its related position or measure on the color scale.

Slide photographs were used to illustrate the process.

ESTIMATION OF THE FLAVORING MATERIALS IN DENTRIFICES

The final paper of the morning session was given by Harvey A. Seil, Seil, Putt & Rusby, "Estimation of the Flavoring Materials in Dentifrices," which will be found reprinted in full on page 63 of this issue.

Between the morning and the afternoon meetings a luncheon was served on the Starlight Roof of the Waldorf at which some 200 guests attended.

EVALUATION OF SUNSCREENS

The afternoon meeting started fairly promptly at 2:00 p.m., the first paper being by Walter Mueller, Sales Manager, Van Dyck & Co., Inc., on the subject of "Evaluation of Sunscreens." In his discussion he said that sunburn and the protective effect of pigmentation are treated briefly. The earth's atmosphere forms a sunscreen that makes all man-made sunscreens seem puny. Without this screen life as we know it could not exist.

The region of the solar ultraviolet spectrum which is responsible for sunburn lies between the wave lengths 2970A and 3130A and is sometimes referred to as the "burning band." A good chemical sunscreen should reduce the activity in this region to a point where it does the minimum harm to the skin, without interfering with the process of pigmentation or tanning. In order to protect the skin against painful sunburn and permit pigmentation, a sunscreen should not absorb more than 75 per cent of the erythemogenic energy of "burning band."

Various methods of evaluating the absorption and stability values of sunscreens are mentioned. Methods depending upon the quartz spectrophotometer and the Orelup radiometer are fully discussed.

Should there be any doubt as to the toxic, irritant or other adverse potentialities of a sunscreen, suitable toxicity and patch tests are indicated.

The correlation between laboratory efficiency tests and chemical tests; the relationship between chemical structure and sunscreen efficiency are discussed at some length.

The evaluation of the efficiency of the finished preparation is of prime importance. The obvious test of the efficiency of a sunburn preventative would seem to be the field test; however, certain variables operate against

H. D. GOULDEN, director, Board of Standards, T.G.A., and temporary chairman of the Scientific Section, was chiefly responsible for getting together the group of interesting speakers that dealt with the many diversified subjects pertinent to the industry,—a program proving the need for this section. The next meeting will be held coincident with the Spring Meeting of T.G.A. at which time officers will be elected.

the practicability of this test. Laboratory efficiency tests are being more highly favored. Significant of this recognition is the fact that the Quartermaster Corps requires that the efficiency of sunburn preventative creams be established by lamp tests. The laboratory evaluation of sunburn preventative preparations is described and discussed.

A MELTING POINT METHOD FOR MOLDED WAX, FATS AND OIL

The subsequent subject, "A Melting Point Method for Molded Wax, Fat and Oil Mixtures," was presented by N. T. Gorchoff, chief chemist, Chap Stick Company, Lynchburg, Va.

Mr. Gorchoff dealt with standard melting point procedures which are generally reliable for single wax materials but which for mixtures they give discordant results. There is a need for a rapid method of determining melting points which permits a number of samples to be run at the same time, gives a sharp end-point and eliminates the whims of the observer's judgment. Such a method has been developed and is described in detail. The average deviation has been 0.5 deg. C.

The third paper of the afternoon session was a very interesting discussion of dermatitis, "Cosmetics and Dermatitis," by Louis Schwartz, medical director, chief, Dermatoses Investigation Section, Division of Industrial Hygiene, U. S. Public Health Service.

Cosmetics and Dermatitis

SO MUCH MORE is now known about the action of cosmetics on the skin, and the use of known harmful ingredients is so regulated by law that outbreaks of dermatitis only occur when new impure untried or substitute chemicals are used in compounding cosmetics.

Dermatitis from cosmetics may occur:

1. Among workers manufacturing them
2. Among beauticians
3. Among the general public

Strange to say, dermatitis from cosmetics rarely occurs among workers who make them.

However, among beauty operators, it is a different story. A considerable percentage of such workers develop dermatitis. Hair dressers' eczema may be caused by soaps, tar, oils, hair tonics, hair dyes, hair wavers, hair straighteners, depilatories and cuticle removers. These are cases of occupational dermatitis and can be prevented by the use of rubber gloves.

It is the dermatitis that occurs among the users of cosmetics which concerns us most. Outside of dermatitis from the improper use of depilatories, cuticle removers, perspiration inhibitors, bleaching and freckle creams, hair wavers and straighteners which contain primary skin irritants, the majority of skin injuries among the users of cosmetics belong to the allergic class, and have been caused chiefly by synthetic hair and eyelash dyes, lipstick, nail lacquers, and lately an outbreak from hair lacquer containing a synthetic resin as a substitute for unobtainable shellac.

While cosmetics as a class rank among the safest of substances insofar as producing dermatitis is concerned, yet there are occasional outbreaks of dermatitis among the public from new and untried cosmetics.

The cosmetic industry owes it to the public and to itself to spare no means in order to place only safe cosmetics on sale. This can be done by testing the effects on the skin of new cosmetic formulas before placing them on the market. Based on the author's extensive experience in the field, the following procedure is suggested:

Before placing a new formula on the market closed patch tests should be performed by a competent dermatologist on at least 200 subjects with the new formula using as a control an old formula which had been on the market for years, and which had caused no unusual number of complaints. The closed patches should remain on for 48 hours after which the reactions should be read each day for three days in order to observe late reactions. The number of reactions obtained from the new formula should not exceed the number obtained from the old.

Ten days after the last reading of the reactions new closed patches of both new and old formulas should be re-applied on the same 200 subjects and allowed to remain on for 48 hours and the reactions again read each day for three days after removal of the patches. If the number of subjects showing sensitization reactions from the new formula exceeds the number showing sensitization reactions from the old formula, the formula is unsafe. Those tests will give an idea of the relative skin irritating and sensitizing properties of the new formula as compared with the old one, but do not give an accurate idea of what may happen under conditions of actual use. Therefore, the following additional tests should be performed:

The same 200 people should actually use the old and the new cosmetic each day on opposite sides of the body for a period of four weeks. If no cases of dermatitis result from the new formula it is safe to place on trial sale. If only one case results then another group of 200 people should be subjected to the actual use test. Only if no cases of dermatitis result among these is it safe to place the cosmetic on trial sale. If more than one case of dermatitis occurs among the first 200 subjects after four weeks of actual use the cosmetic is unsafe.

By trial sale is meant the sale for a period of not less than one month (if no cases of dermatitis are reported before this time) in only one community where between 5,000 to 10,000 packages of the cosmetic are to be sold. If no cases of dermatitis are reported during the trial sale then the cosmetic is safe. If cases are reported during the trial sale the manufacturer should employ a competent dermatologist to investigate them and determine the actual cause. The continued sale of the cosmetic or its withdrawal from the market should depend on such an investigation.

If cosmetic manufacturers adopt the trial procedures advised above before placing new cosmetic formulas on the market they will avoid harming the public and the cosmetic industry. These manufacturers of cosmetics who adopt the trial procedures can appraise the public of the fact in their advertising and may increase the sales of their products. They will also have valuable testimony at their disposal to prove that the occasional case of dermatitis which may occur from the use of the

Cosmetics Reported to Have Caused Dermatitis

COSMETICS	CHEMICAL CAUSES	TYPE OF DERMATITIS	COMPARATIVE FREQUENCY
Creams	Petrolatum Triethanolazine Methyl heptine carbonate Phenols. Mercurials	Allergic	Rare
Deodorants	Aluminum salts	Primary irritant and sensitizer	Fairly common
DEPILATORIES	Thallium acetate (system. poison.)	Primary irritant	Fairly common
Hair wavers Straighteners and lacquers	Alkalis Resins	Primary irritant and sensitizer	Fairly common
Hair dyes Eyelash dyes	Oxidation dyes i.e. Paraphenylenediamine Paraamido phenol Orthoamide phenol Paratoluenediamine Metatoluenediamine	Allergic	Now rare, but frequent when these dyes were first introduced
Lipstick	Dyes, chiefly the eosin group which are photosensitizers. Perfume: methyl heptine carbonate	Allergic	Fairly common
Nail laquers	Synthetic resins of formaldehyde and ester gum types Dyes, Resin: Rhodamine B and Deep Maroon	Allergic	Fairly common
Perfumes	Oil of bergamot Methyl heptine carbonate Synthetic jasmine Linalool. Eugenol. Copper	Allergic	Rare
Powders	Orris root Dye	Allergic	Rare
Soaps, Cleansers synthetic detergents	Alkalis Phenols	Refatting action on skin and sensitizer	Fairly common

cosmetic is due to the peculiar sensitivity of the plaintiff and not to the cosmetic, for there are no substances to which some one may not become hypersensitive.

To sum up:

1. Cosmetics have been used by all civilizations.

2. If properly prepared and used, cosmetics as a class are harmless and may even be beneficial to the skin.

3. An occasional case of allergic dermatitis from the use of cosmetics cannot be avoided.

4. Outbreaks of dermatitis have occurred from cosmetics which were not properly tested before being placed on sale.

5. A plan for testing new cosmetic formulas before placing them on sale is proposed for the purpose of bringing down to the minimum the number of cases of dermatitis which may occur from their use.

This paper was extremely timely due to the substitution of many products needed to replace those unobtainable.

Following Mr. Schwartz' paper was an explanation of "A Control Dithizone Method for Lead Analysis," by Frank H. Buckwalter, research chemist, Bristol Myers Co., Bristol, Conn.

A CONTROL DITHIZONE METHOD FOR LEAD ANALYSIS

The official dithizone method as given in "Official and Tentative Method of Analysis of the Association of Official Agricultural Chemists" is somewhat lengthy and time consuming. There has been a need for a method that would give results of reasonable accuracy and yet be simple enough to permit one chemist to make a large number of analyses per day. Such a method has been developed and is described in detail. The method, which is strictly a control method, gives results which are accurate to 10 to 20 per cent. If absolute accuracy is required and not merely the order of magnitude this method should not be used. The application of the method to such products as lather and brushless shave creams, toothpastes, hair tonics, deodorants and cold creams is discussed.

The method was developed in connection with research on the packaging of various materials in lead and alloy tubes. A discussion on some of the various materials as internal coating was also of considerable interest.

Dr. Maurice L. Tainter, Winthrop Research Laboratories, Winthrop Chemical Co., Rensselaer, N. Y., spoke on the "Abrasiveness of Dentifrices."

Abstract follows:

THE ABRASIVENESS OF DENTIFRICES

In order to assure the proper degree of abrasive power to clean the teeth effectively without having deleterious cutting effects, test methods must be used which can reveal the effects on human teeth under conditions of actual use. Data is presented which shows that metal or glass plates do not reflect the effects of dentifrices on teeth. A machine and test procedure are described with the wear on teeth measured with adequate degrees of accuracy. With this it was demonstrated that synthetic bristle brushes are superior to natural ones. There was shown to be a linear relationship between mean particle diameter of a powder and its cutting power for teeth when used as a dentifrice. The abrasive power of 51 commercial pastes and powders were measured, as well as six liquid dentifrices. The liquid dentifrices tended to cause less abrasion than the wet brush alone. This probably resulted from the lubricating action of the synthetic detergents in the liquids.

These studies reveal that only by the application of the facts set forth in these investigations for the first time will dentifrice manufacturers be able to exert adequate control over their products to ensure uniform and satisfactory characteristics.

The final paper of the session was given by Dan Dahle, chief, Cosmetic Division, Food and Drug Administration, Federal Security Agency, on "Cosmetic Analysis."

Cosmetic Analysis

WHEN THE FEDERAL Food, Drug and Cosmetic Act was passed in 1938, we made a survey of the chemical literature in search of published methods for the analysis of cosmetics. We found such methods generally scarce and for many cosmetic products entirely non-existent.

The fact that today America's most important association of cosmetic manufacturers is giving serious thought to analytical methods is to me a sign of a very healthy development within this industry. It is one of the signs that a relatively young industry is facing facts and becoming a 20th century product rather than trying to cultivate medieval mysticism.

In fact, prior to 1939 no serious attempt seems to have been made to devise or collect a set of chemical methods applicable to a fairly complete

analysis of an unknown cosmetic product. Admittedly, even today not much has been done along these lines but a start has been made. Hoshall's report on "Colored Make-up Preparations," published in the November, 1941, issue of the *Journal of the Association of Official Agricultural Chemists* probably represents the first attempt in this direction. This report outlines the analysis of lipsticks. I use the word "outlines" because unfortunately for cosmetic analysis the U. S. Army claimed Lt. Col. Hoshall's services before he had time to work out the details of most of his proposed procedures. In addition to his work on lipsticks Mr. Hoshall has also contributed methods for the determination of sulfides and thioglycolates in depilatories. The latter method with suitable modifications is at present used by the Food and Drug Administration in their work on solutions for cold permanent waving.

In the same issue of the same journal Bruening presented a procedure for the analysis of cold creams, which he supplemented a year later with a set of methods suitable for vanishing cream analysis. An outline for the analysis of cosmetic creams and creamy lotions, based on Bruening's work and supplemented by additional methods from other chemists, is being prepared now by the Cosmetic Division and will, we hope, reach publication this year.

McClellan in 1942 published his methods for the complete analysis of face powders. Frank Atkins in *Soap, Perfumes and Cosmetics* characterized this as "the first officially sponsored scheme for the analysis of this type of products." McClellan has also contributed articles on the "Separation and estimation of mercury, bismuth and zinc in skin bleaches" and on a "Rapid determination of silica in powders."

The most prolific writer on cosmetic analysis during the past four years was I. S. Shupe. Between February, 1940, and November, 1943, he published 15 articles. Of these 8 were on hair dyes and their constituents. Unfortunately Shupe's summary on the application of his methods to the complete analysis of unknown hair dyes remained unfinished when he left cosmetic work for a position in the drug industry. We are planning, however, to work it up for publication in a not too distant future.

Other articles of analytical interest, contributed by Shupe, include:

- Identification of some amine emulsifiers.
- Detection and determination of mono- and diethanolamines, morpholin and carbitol.
- The use of xanthates in identification of alcohols.
- The periodate reaction applied to cosmetic ingredients.

The latter article is of particular interest today as a means of determining the components in mixtures containing glycerine and various glycols.

Another article of interest to lipstick manufacturers is "Effect of light on erythrosine and bromo acid," by O. L. Evenson.

The next question would be: "Where can these methods be of use to me? In answering that one, I'd like to preface my remarks with an admission that probably a regulatory official like myself can find more use for them than a manufacturer. For us a good method for mercury was definitely useful in checking some bleach creams for amoniated mercury. It enabled us to find one product which on the label promised 1½ per cent of this material but actually contained less than one per cent. Now, the manufacturer of that product could have used the same method as a factory control and would have detected that his process failed to produce a uniform mixture, i.e., that one portion of his batch was over 1½ per cent and another below.

CHANGE DUE TO STANDING

Makers of sulfide depilatories probably know that their products deteriorate and lose strength on standing. I wonder how many know how rapid this deterioration is, and how it varies in creams, pastes and liquids of different composition. Some of these days one of these manufacturers may find himself explaining to the court why he calls his product a depilatory when it will not remove hair even if it is left on 15-20 instead of five minutes as stated on the label. Or maybe that manufacturer will employ a little chemical analysis and let his competitor get caught.

When complaints start coming in about the taste of your lipsticks, how many of you blame the castor oil substitute, but fail to determine by chemical test that the stick has gone rancid. It requires less than one gram to make that determination and a rancid lipstick may cause an injury to the user's lips that can't be explained away as allergy. And besides, section 601(b) of the Food, Drug, and Cosmetic Act holds that a cosmetic is deemed to be adulterated if it consists in whole or in part of a decomposed substance.

I have mentioned these cases to show the practical application of analytical methods in factory control and in avoidance of law violations. The cases are not taken from imagination but from actual records.

So far I have limited my remarks to the topic of chemical analysis. But there are other problems; one, that I should like in particular to recommend to this Scientific Section is the problem of sensitization; i.e., the question of acquired hypersensitivity.

HYPERSENSITIVITY

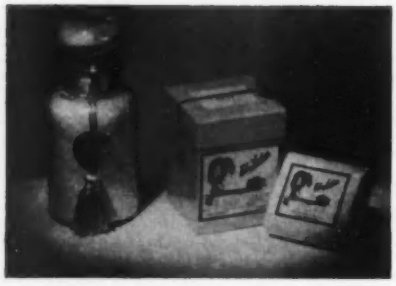
Many manufacturers have come to us in Washington to discuss some new product they are getting ready to place on the market. They show us data on the purity of raw materials; on animal feeding experiments intended to prove how non-toxic the preparation is, on intravenous, intramuscular and subcutaneous injections to prove the non-irritant properties of their product, skin applications to animals and humans to show that few if any instances of allergy are encountered, etc. And there they stop. No data to show what may happen to the individual who uses the product day after day, year after year. After all, the success of a product depends on re-orders by satisfied users. And yet there seem to be no efforts made to determine prior to marketing whether the product is apt to cause trouble by sensitization of the user after some time. It seems to be taken for granted that prolonged use always results in immunity. And yet our records show that there is a surprisingly high percentage of women who acquire a hypersensitivity to cosmetics and their ingredients on continued use. Here is really a field for a Scientific Section. Develop suitable methods to test the sensitizing properties of your products and your raw materials! You will find that some products and some raw materials have a greater capacity for sensitization than others. If you want a starting point refer to Landsteiner and Jacobs: "Studies on the Sensitization of Animals with Simple Chemical Compounds." These were published in the *Journal of Experimental Medicine* during 1935-1937. Also see Sulzberger's articles on "Acquired Specific Hypersensitivity," in the *Journal of Allergy* from 1938 to 1941.

While I am suggesting problems for future work let me mention the old controversy about glycerine. Does glycerine, because it is hydroscopic, dehydrate the skin and cause irritation? Now that many of you have found that you could—because you had to—get along on less glycerine, would it not be well to know whether you ought to go back to the use of glycerine after the war or keep on with the substitutes?

NEED FOR A SCIENTIFIC SECTION

All in all I should say that there is plenty of need for a Scientific Section in the cosmetic industry and an oversupply of work for the members of such a section. Let us wish them good luck in their undertaking.

Packaging Portfolio

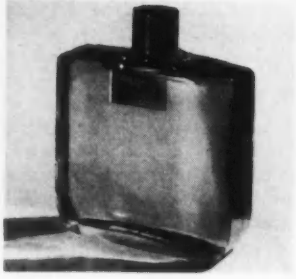


HELEN LIEBERT

GOURIELLI

OGILVIE SISTERS

SOFTOL



TABU

JERGENS

PRIMROSE HOUSE

HELEN LIEBERT: Large apothecary bottle holds lightly scented bath salts. Neck of the bottle is bound with a gold rayon cord, a gold label holding the tassel in place. The bright yellow soap box tied with a blue cord contains three cakes of soap. Wrapping shows company's trademark

GOURIELLI: Emulsion Soap, claimed to be an especially thorough cleanser, is recommended by the maker for use on an oily skin. The soap comes in a white jar decorated with lettering and crest in black. The product is available in one size only

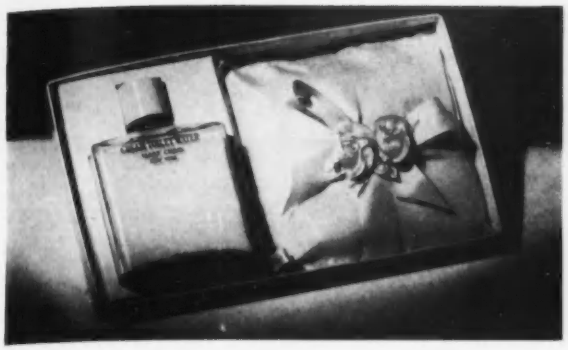
OGILVIE SISTERS: Jumbo Hair Pencil is now guarded with paper wrapping to prevent smudging of hands when used to temporarily color the hair. The base of the stick is black paperboard—the cylindrical cover bright pink, with white lettering and design. Six shades are available

SOFTOL: New cuticle set holds a 1½-ounce bottle of lubricant and a plastic cuticle stick for dispensing. The fountain pen-like stick holds enough fluid for eight manicures. Distributed by W. B. Associates

TABU: A sophisticated scent created by Dana Perfumes. Large-sized bottle is of clear glass with black plastic stopper. Tabu carton is striped in black and white

JERGENS: A new face powder shade, Southern Rose, is claimed to remain the same color after application to the skin. It is packaged in the familiar Jergens movie-star box and is available in three sizes

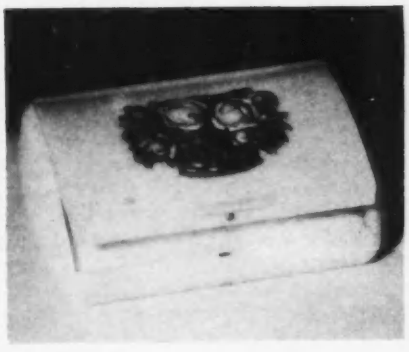
PRIMROSE HOUSE: Prim Shampoo, prepared according to the formula used in the maker's Park Avenue Salon, contains no alcohol or alcohol substitutes. The shampoo comes in the six-ounce bottle only



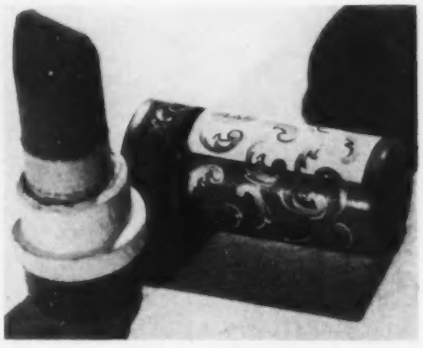
MARY CHESS

VOLUPTÉ

DAGGETT & RAMSDELL



HENRIETTE



YARDLEY

HERB FARM SHOP

DELETTREZ

MARY CHESS: Carnation scented Mother's Day set contains Cream Toilet Water and rayon taffeta sachet pillow. A color designated for each Mary Chess scent, Carnation preparations are packaged in green

VOLUPTÉ: A sturdy loose-powder compact made of heavy paperboard attractively covered with floral chintz is introduced in several color combinations including rosebuds on white or yellow backgrounds

DAGGETT & RAMSDELL: Perfect Hand Cream, delicate pink in color, is launched for work-exposed hands. The jar is white with raised scroll design on either side of the label. The metal cap is pale blue

HENRIETTE: New loose-powder compact is ivory-colored plastic — a colorful flower-basket label decorates the lid. Convex design creates generous space for powder

YARDLEY: New refill in lacquered wood and paperboard case may be used as is, or removed and fitted into Yardley metal case. The stick has perforated wax-paper cover to be torn off as lipstick is used

HERB FARM SHOP: Packed in a miniature florist's box, Carnation Sachet comes in White Phlox, Night Scented Stock, Royal Purple. Stem of green satin holds sachet. The flowers are available in five colors

DELETTREZ: Oils of the Night, containing no emulsifying agent or water, is formulated from undiluted rich oils. The new product is available in a two-ounce size

COURIELLI: Sulfo-Collodio Cream, practically odorless, contains colloidal sulphur. The product is white, greaseless, light in texture and has a vanishing base

COURIELLI

A Survey of Oil of Costus Root

Sources and description—physical and chemical properties of costus root oil . . . A valuable ingredient of high-grade perfumes . . . Particularly useful in the oriental type bouquets

by DR. ERNEST GUENTHER

Chief Research Chemist, Fritzsche Brothers, Inc., New York, N. Y.

THE COSTUS ROOT of the ancients, or kuth, as it is called in Kashmir, has been used in Hindu, Chinese, Greek and Roman medicine since remote ages. It has been praised as an aromatic stimulant against fever, cough, asthma, dyspepsia, skin diseases, ulcers, stomach troubles, cholera and as a potent aphrodisiac. In Kashmir it is employed to preserve woolen fabrics; in China, as incense in temples.

BOTANY

Saussurea lappa Clarke (fam. *Compositae)* is a tall sturdy herbaceous perennial, five to seven feet high, with large radical leaves and a robust flowering stem containing a cluster of several bluish-black flower heads. *Saussurea lappa* Clarke must not be confused with *Costus speciosus* Smith, (fam. *Scitaminaceae)*, the root of which is odorless and serves as a native food.

HABITAT AND RANGE

Costus grows most abundantly in the Kishengang Valley of Kashmir and in the higher elevations of the Chenab Valley. It prefers shady moist places beneath birches and dwarf willows at altitudes from 8,000 to 12,000 feet. The Sanskrit designation, kashmirja, for costus means that the root is produced in Kashmir, and indeed Kashmir holds a monopoly on the growing and exporting of this valuable root.

COLLECTION AND USES

Costus root is dug up in September and October and cut into pieces, three to four inches long, which are dried and transported to the go-downs (warehouses) of Baramulla in Kashmir. It is claimed that about two million pounds of costus root are harvested yearly. As said, the bulk of costus root serves today for scenting Kashmir shawls as protection against insects. Furthermore, it is used as incense in Chinese pagodas. Only a small portion of the harvested root is exported to Europe and the United States to be distilled for its essential oil.

Costus root contains several active principles: 1. glucosides, 2. alkaloids, 3. an essential or volatile oil. In this paper we shall confine ourselves to a description of the essential oil.

PHYSICO-CHEMICAL CONSTANTS

According to Gildemeister and Hoffmann,[1] distillation yields from 0.3 to one per cent, in exceptional cases 1.5 per cent of volatile oil. The constants vary between the following limits:

Specific Gravity at 15° C.	0.940 to 1.009
Optical Rotation	+13° to +27°
Acid Value	8 to 36
Ester Value	55 to 114
	When titrating the excess alkali, the liquid must be kept cool to prevent regeneration of lactones; otherwise the ester value would be lowered to 18 and 45.
Ester Value after Acetylation	105 to 162
Solubility	Clearly soluble in 90% alcohol; opalescent and turbid after addition of 2 to 5 volumes of 90% alcohol, or larger amounts of 95% alcohol.
	Because of the presence of acids and lactones, 33 to 52% of the oil is soluble in a 5% solution of caustic soda.

Messrs. A. Chiris[2] found that the constants of two steam distilled costus root oils had the following properties:

	a	b
Specific Gravity at 15° C.	1.0067	1.012
Optical Rotation	+7°15'	+9°10'
Refractive Index	1.5177	1.5188
Acid Value	34.23	30.8
Ester Value	88.9	89.78
Solubility	Soluble in 10 volumes of 90% alcohol; soluble in 4 volumes of 95% alcohol. 45% of the oil was soluble in a 3% solution of caustic soda.	Soluble in 10 volumes of 90% alcohol; soluble in 1 volume of 95% alcohol. 44% of the oil was soluble in a 3% solution of caustic soda.

The low optical rotation and the high acid number of these oils lead to the conclusion that they were distilled from aged root material. Distilling imported costus root in our French (Seillans, Var) factory, we obtained oil yields ranging from 0.98 to 1.5 per cent. The constants of these oils varied between the following limits:

Specific Gravity at 15° C.	1.000 to 1.045
Optical Rotation	+12°0' to +14°14'
Refractive Index at 20° C.	1.5159 to 1.5280
Acid Value	29.4 to 40.6
Ester Value	90.5 to 121.3
Ester Value after Acetylation	173.3 to 176.1
Solubility at 20° C.	Soluble in 0.5 volumes of 90% alcohol; cloudy and showing sometimes separation of paraffin crystals with more alcohol.

The constants of these genuine oils differ considerably from those of Gildemeister and Hoffmann[3]; in fact, even more than the two oils described in *Les Parfums de France.*[4]

Analyzing commercial costus root oils in our New York laboratories we had occasion to notice several cases of

[1] *Die Ätherischen Öle*, 3d Ed., Vol. III, p. 1044.
[2] *Parfums de France* 14 (1936), 271.
[3] *Op. cit.*
[4] *Op. cit.*

adulteration. One sample was cut by the addition of vetiver root oil, the constants of which are not too unlike those of costus root oil to permit moderate additions. Such oils would probably pass the test of regular routine analysis and only the expert, acquainted with the odor of true costus root oil, would find fault.

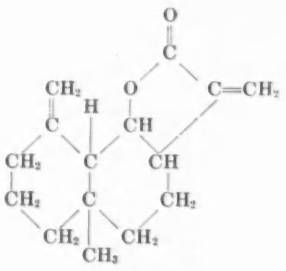
CHEMICAL COMPOSITION

The chemistry of costus root oil was investigated by Semmler and Feldstein.[5] The presence of a number of constituents was established but the structural formulas of most of them remain unknown:

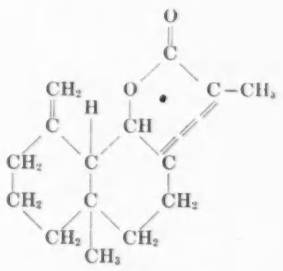
camphene and *phellandrene and probably a terpene alcohol*, $C_{10}H_{18}O$ — In the fraction 60 to 100° C., at 11 mm. pressure.

α-costene — A sesquiterpene with the following constants:
B.P. : 122 to 126°C., at 12 mm. pressure.
$d_{21}°$: 0.9014
α_D : −12°
n_D : 1.49807

β-costene — A sesquiterpene with the following constants:
B.P. : 144 to 149°C., at 18 mm. pressure.
$d_{22}°$: 0.8728
α_D : +6°
n_D : 1.4905



alantolactone



isoalantolactone

costus lactone $C_{15}H_{20}O_2$ — For the purpose of purification, the lactone, occurring in the fraction B.P. 200 to 210°C., at 11 mm. pressure, was converted into the corresponding hydroxy-acid, the methyl ester of which, upon boiling, was reconverted into a lactone named costus lactone by Semmler and Feldstein.[6] It is bicyclic, contains two double bonds and is an isomeride of alantolactone. According to Ruzicka and Van Melsen,[7] Hansen[8] and Ruzicka and Pieth[9] alantolactone and isoalantolactone seem to possess the structural formulas given at top of the page:

Costus lactone possesses the following properties:
B.P. : 205 to 211°C., at 13 mm. pressure.
$d_{21}°$: 1.0891
α_D : +28°
n_D : 1.53043

costus acid $C_{15}H_{22}O_2$ — Doubly unsaturated and bicyclic, it shows after purification through the silver salt, the following constants:
B.P. : 200 to 205°C. at 11 mm. pressure.
$d_{21}°$: 1.0508
α_D : +40°
n_D : 1.51912
B.P. of the methyl ester: 170 to 175 C.° at 11 mm. pressure.

Reduction of the methyl ester with sodium and alcohol yields costol.

dihydrocostus lactone $C_{15}H_{22}O_2$ — The silver salt of the corresponding hydroxy-acid was transformed into the methyl ester which, upon distillation in vacuo, formed again dihdrocostus lactone. Thus purified, it showed the following constants:
B.P. : 210 to 213°C. at 19 mm. pressure.
$d_{22}°$: 1.0776
α_D : +48°
n_D : 1.52289

Heating costus acid with a 33% solution of sulfuric acid gave dihydrocostus lactone. Both costus lactone and dihydrocostus lactone, when hydrogenated with platinum and hydrogen yielded the identical tetrahydrocostus lactone $C_{15}H_{24}O_2$.

Costus lactone, dihydrocostus lactone and costus acid are, there-

Business street in Bolavia, Java. Here business is carried on without rush and bustle.

[5] *Ber. d. Deut. Chem. Ges.* **47** (1914), 2433, 2687.
[6] *Ibid.*
[7] *Helv. chim. acta.* **14** (1931), 397.
[8] *Ber. d. Deut. Chem. Ges.* **64** (1931), 1904.
[9] *Helv. chim. acta.* **14** (1931), 1090.

fore, genetically related, since it is possible to convert costus acid into dihydrocostus lactone; furthermore, costus lactone and dihydrocostus lactone into tetrahydrocostus lactone.

The three compounds probably fall into the class of bicyclic sesquiterpenes and their derivatives.

costol $C_{15}H_{24}O$

A primary bicyclic sesquiterpene alcohol with two double bonds, costol showed, after purification through the phthalic ester, the following constants:

B.P. : 169 to 171°C. at 11 mm. pressure.
$d_{21}°$: 0.9830
α_D : +13°
n_D : 1.5200

Reaction with phosphorus trichloride yielded costyl chloride $C_{15}H_{23}Cl$ (B.P. 160 to 165°C. at 13 mm. pressure) which upon reduction with sodium and alcohol gave isocostene:

B.P. : 130 to 135°C. at 12 mm. pressure.
$d_{21}°$: 0.9062
α_D : +31°
n_D : 1.50246

Isocostene seems to be a doubly unsaturated sesquiterpene of the caryophyllene type.

aplotaxene $C_{17}H_{28}$(?)

This hydrocarbon boils at 154 to 156°C., 11 mm. pressure, and has a low specific gravity, $d_{21}°$, 0.8604. It was not possible to obtain it completely free from oxygenated compounds. Reduction with sodium and alcohol gave dihydroaplotaxene $C_{17}H_{30}$. The latter, when reduced with hydrogen and platinum black yielded octohydroaplotaxene:

B.P. : 159 to 163°C. at 11 mm. pressure.
$d\frac{21°}{16°}$: 0.7805

which is identical with n-heptadecane.

Thus, aplotaxene is an aliphatic hydrocarbon with a normal chain and four double bonds, two of which are in conjugated position.

The quantitative composition of costus root oil is about as follows:

PER CENT	
0.4	camphene
0.4	phellandrene
0.2	terpene alcohol
6.0	α—costene
6.0	β—costene
20.0	aplotaxene
7.0	costol
15.0	dihydrocostus lactone
11.0	costus lactone
14.0	costus acid

EMPLOYMENT

Oil of costus root is one of the most valuable ingredients employed in high-grade perfumes. Particularly useful in bouquets of the oriental type, it blends very well with sandal, vetiver, patchouly, rose and geranium. The odor of costus root oil is peculiar, heavy and very lasting. In the hands of a skilled perfumer very unique effects can be achieved with this interesting and rare essential oil.

British Ban on Petroleum Hair Preparations Withdrawn

by OUR BRITISH CORRESPONDENT

THE TOILET Preparations No. 4 Order, 1943, which came into force in Great Britain on Jan. 1, 1944, amends the Toilet Preparations No. 3 Order, 1943. The new provisions have the following effect:

1. The prohibition on the supply of brilliantine and other hair preparations containing petroleum products, which would have come into force on the first of March, 1944, has been removed. Registered manufacturers will now be permitted to make and supply these preparations under license in the same way as other controlled goods, and they may supply them without restriction to the Merchant Navy Supply Ass'n, Ltd. Unregistered manufacturers who are entitled to supply controlled goods of their own manufacture to a value not exceeding £41.13.4d. per month may include hair preparations in these supplies.

2. Traders are reminded that after Dec. 31, 1943, no person may supply controlled goods comprising more than one part in 200 (calculated by weight of acetone or any other of the prohibited solvents specified in the First Schedule to the No. 3 Order). Persons using such preparations in the course of their business; e.g., in a beauty parlor, are considered to supply them, even if no separate charge is made, except under license unregistered manufacturers may only supply toilet preparations of their own manufacture by retail sale on the premises where the goods are made, or by using the preparations in the course of their business; e.g., hairdressers who are authorized to manufacture hair preparations may use them in their salons. The value of goods so used must be counted against the permitted total of £14.13.4d. per month, and is to be computed by reference to the open market value of the total quantity used in each month.

3. Wholesalers may not buy toilet preparations if at the *date of purchase* the manufacturer's name is not on the register, unless the manufacturer holds a license to sell otherwise than by retail, and quotes the number of his license in a signed endorsement on the invoice in the form set out in the order.

Also, wholesalers may not supply toilet preparations except under license if, at the *date of supply*, the manufacturer's name is not on the register.

4. Retailers may not buy toilet preparations if, at the *date of purchase*, the manufacturer's name is not on the register, unless the seller holds a license to sell and quotes the license number on his invoice.

The Toilet Preparations Register has been revised.

5. The declarations which must be obtained by persons supplying material for toilet preparations, from customers who are not registered manufacturers, must be received before any supplies are made, but only one declaration need be obtained from each purchaser.

It is now made clear that toilet preparations commonly described as curative or alleviating are controlled.

Calomine lotion of the National War Formulary is no longer controlled under this order.

Certain readjustments have been made in the returns which are required from persons whose names were included in Part I of the Toilet Preparations Register.

What About Tomorrow's Packaging?

"ONE HUNDRED YEARS ago—before Pearl Harbor," said Josephine von Miklos, well known industrial designer, "I did not know how important lipsticks were, but since that time I have been in a war plant." In that war plant, Miss von Miklos in working side by side with many other women workers, realized the uplift that cosmetics can give to the tired, a bit bedraggled overalled girls. She has seen them flop down for a few minutes at lunch time and pull out a lipstick, put on fresh make-up and go back to work, not only feeling fresher but actually doing a better job.

In the course of her chat which took the form of a Question and Answer Quiz at the Cosmetic Division Luncheon of The Fashion Group, Inc., Miriam Gibson, publicity director of Shulton, and chairman of the Cosmetic Section, acting as the interrogator, Miss von Miklos answered many questions of particular interest to the cosmetic industry.

She touched upon the wonderful job that many cosmetic houses are doing in converting the use of their packages to war-time — Rubinstein's mascara case used for a first aid kit; lipstick cases and compacts to hold time fuses for shells, etc.

POST-WAR PACKAGING

When asked about post-war packaging Miss von Miklos said she felt the picture was very much confused. There is no doubt but that new materials will play an important part, that probably new living conditions will be a factor and that new industrial developments will be a consideration. However she did feel that it would not be a swift and rapid change, but a more or less slow growth. She also thinks it will be much more likely to be a period of less chichi, for as she said, "Nothing is as unchichi today as chichi," and this she thinks will hold after the war.

SUBSTITUTES

The use of plastics as substitute materials for any number of products in the field presents a very interesting possibility. The powders that can be used to obtain unusual color effects are legion. Also the glow that can be produced on plastics and which now is confined to war use, offers post-war possibilities. "At the present time, I do not know what."

Plastic plating is now being done, and done almost as cheaply as printing.

Miss von Miklos had among her various samples she exhibited the first bottle molded out of plastic. It was very light, very clear, but it could not be used for any alcoholic-containing substance, consequently not for perfumes. Here is a cause for caution—not to package unsuitable products in packages that may effect the product.

POSITION OF GLASS

To the question whether or not glass would be discarded, Miss von Miklos was very emphatic in her answer—"It would be *foolish* to discard glass. Good designing will always apply to each product."

The idea advanced that plastic jars might replace glass was not given much credence as in comparing the two, the plastic jar does not have the feel that women require.

Another product that was mentioned was a combination of plastic with metal and the finish which it gave, and just how this highly polished surface could be used in post war.

WAR-TIME PACKAGES

Miss Gibson asked the question what was to become of all of the war-time packaged goods; would they be dead wood on the merchandisers shelves. To this Miss von Miklos felt very strongly that even though the change over to the new would be gradual, and that some of this war-time material would be used, still she considered it so much dead wood. She even suggested that it be shipped to foreign countries where they have been much poorer in cosmetics than we.

The question of redesigning a line brought up the question of the old and the new. Miss von Miklos said that the trade mark may be old, and for this reason to improve merchandizing gift packages and promotional items were often added to keep apace with the newer houses, but the great trick is to hit upon a basically good design irrespective of period, and incorporate with it basic materials, basic ideas, etc.; then the product is always good.

The modern trend is toward utility and education on the use of cosmetics. The cream jars of tomorrow must be lighter, not of opal as too heavy, and not of plastic due to slippery feel. They must however be beautiful and at the same time practical. Past experience has shown that streamlined cosmetics do not sell. The old fashioned can be interpreted in the modern. Simplicity with greater richness of design—"by this I do not mean doodabs and little bows on packages"—will possess the greatest appeal. This simplicity and elegance may be on glass or any substance, but the sum and substance of it all is, it must be beautiful.

CHAIN STORE DESIGNING

Miss von Miklos said that she was very much interested in designing for chain store items. "That," she said, "was really a hard job. If you have all the facilities and money with which to work, it is easy, but when you attempt to design something for the dime stores then you have a real problem on your hands."

In conclusion Miss von Miklos spoke of the almost certainty of these turbulent times producing new packages, new means of developing them and new ways of merchandising them. It had always been so in the past and it undoubtedly will be after this war.

Hand Creams—A Protection for Industry's Hands

BEAUTIFUL hands beautifully kept can prove one of a woman's greatest assets. Consequently much educational work can be done by the different cosmetic houses along this line so that a good hand cream or lotion will prove a very fast-selling item. The demand for these creams centers in plants where the wear and tear on feminine hands is tremendous.

Hand creams are usually modified vanishing creams or jellies or mucilages in which a proportion of oil may or may not have been incorporated.

Hand lotions are of various types, but as a rule, they contain glycerine and a soap of some kind, with the addition of some alcohol. The more usual type however, is an emulsion — a modification of a vanishing cream, a complexion milk, or a liquid cold cream.

These emulsified lotions of the greaseless type are again coming into their own. Such lotions contain as a rule, glyceryl monostearate, oleic acid, glycerine, alcohol, S.D., triethanolamine, water and preservative and perfume as desired.

The claims made in labeling hand creams should be limited to beautifying or otherwise enhancing the appearance of the hands, for if other claims, such as relieving chapped hands are made the product may be classified as a drug and as such must give the qualitative statement of its composition on the label as well as comply with other sections of the Food, Drug and Cosmetic Act.

SPECIAL★★★★FEATURE!

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THE PRODUCTION CONTROL AND ANALYSIS OF COSMETICS

By MAISON G. de NAVARRE, Technical Editor, American Perfumer, Special Instructor in Cosmetics, Wayne University, etc.

Through special arrangement with the author, the AMERICAN PERFUMER has secured the right to publish this valuable work in serial form, prior to its publication as a book. One or two complete chapters will be printed each month—*in addition to the full, regular contents of the magazine!* The special pre-publication of this book, at this time, is an event of greatest importance to the entire cosmetic industry . . . and is an EXTRA service rendered by the AMERICAN PERFUMER to its readers and subscribers.

A new kind of cosmetic book based on work in the author's own laboratory, as well as in well-known cosmetic factories. All methods are practical and scientific, based on long experience. Minimum requirements are given for starting a laboratory, plus many suggestions on what to do and what to avoid. Every type of cosmetic is described . . . a wealth of material not found in any other book! While the book will be most helpful to technicians with a chemical or pharmaceutical background, it can also be of great help to those not so trained. Scientific equipment of the most urgent type and highly advanced apparatus are described.

With increasing Government activity in the field of cosmetics, it is important to know how to control their quality and to analyze them, thus making sure that the product is of uniform composition. By these methods you can always analyze competitive products and keep posted on what is going on in the industry. The methods are arranged for quick and direct use. They have been tried and found successful. This book is essential for any work in the field of cosmetics . . . for with this volume you need very few other references.

DESCRIPTION OF CONTENTS

Chapter I. **EQUIPMENT AND LAYOUT FOR SMALL TESTING & CONTROL LABORATORY.** The choice of equipment necessary to carry on modest cosmetic control and analysis as outlined in the following chapters. Suggestions for additional equipment, if more complete analysis is desired. Laying out a small chemical laboratory with recommendations for furniture, shelving, lighting, electrical outlets, plumbing, etc.

Chapter II. **SPECIALIZED EQUIPMENT.** For those laboratories employing chemists, special equipment for more elaborate checking and analyses.

Chapter III. **VALUE OF PRODUCTION CONTROL.** Basic reading for anyone doing control work. Essential reference books.

Chapter IV. **PHYSICAL AND CHEMICAL TESTING—** GRAVIMETRIC AND VOLUMETRIC METHODS. Methods commonly used in testing laboratories. Chemical testing is of two types. Brief comments on each type with suggestions for overcoming errors.

Chapter V. **EMULSIFIED CREAMS.** Cold creams, liquid, tissue, vanishing, deodorant, antiperspirant, brushless shaving and hand creams. Permanent waving cream, hair conditioners.

Chapter VI. **OILS, FATS AND NON-EMULSIFIED CREAMS.** Liquid brilliantine, solid brilliantine, skin oils, liquefying cream.

Chapter VII. **PASTES.** Toothpaste, depilatory, facial packs, antiperspirant.

Chapter VIII. **SOLUTIONS.** Liquid lotions, hair tonic, astringent, skin freshener, permament wave solutions, shaving lotions.

Chapter IX. **MUCILAGES.** Hand lotions, wave set, brilliantine, etc.

Chapter X. **SUSPENSIONS.** Liquid powder, acne lotion, liquid make-up, leg make-up.

Chapter XI. **STICKS AND MAKE-UP.** Cake make-up, lipstick, deodorant sticks, antiperspirant, leg stick, perfume sticks.

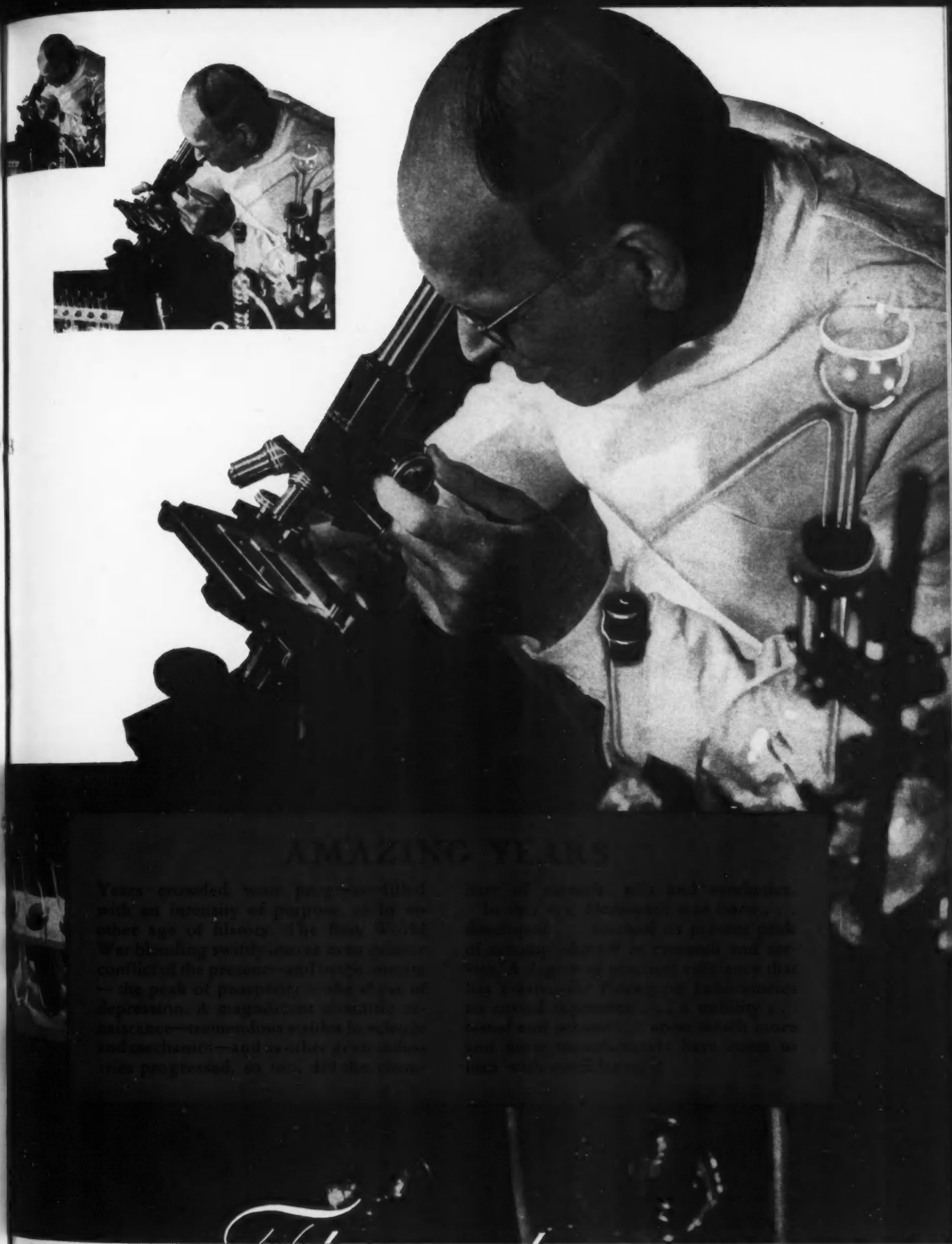
Chapter XII. **POWDERS.** Face powders, baby powders, talcum powder, deodorant powder, tooth powder, depilatory, foot powder.

Chapter XIII. **THE VALUE OF CONTROL AND ANALYSIS.** Limitations of analysis because of the use of unknown specialties. The value of analysis in control work and in knowing what is currently sold on the market.

Chapter XIV. **TABLES AND CONVERSION FACTORS.** Tables of conversion factors and miscellaneous information.

Chapter XV. **INDEX.**

BE SURE TO READ THIS HELPFUL, PRACTICAL BOOK IN THE AMERICAN PERFUMER—STARTING NEXT ISSUE! IF YOU ARE NOT ALREADY A SUBSCRIBER, WHY NOT SEND IN YOUR SUBSCRIPTION *RIGHT NOW*? YOU WILL NOT WISH TO MISS A SINGLE CHAPTER OF MR. DE NAVARRE'S BOOK DURING THE YEAR AHEAD!



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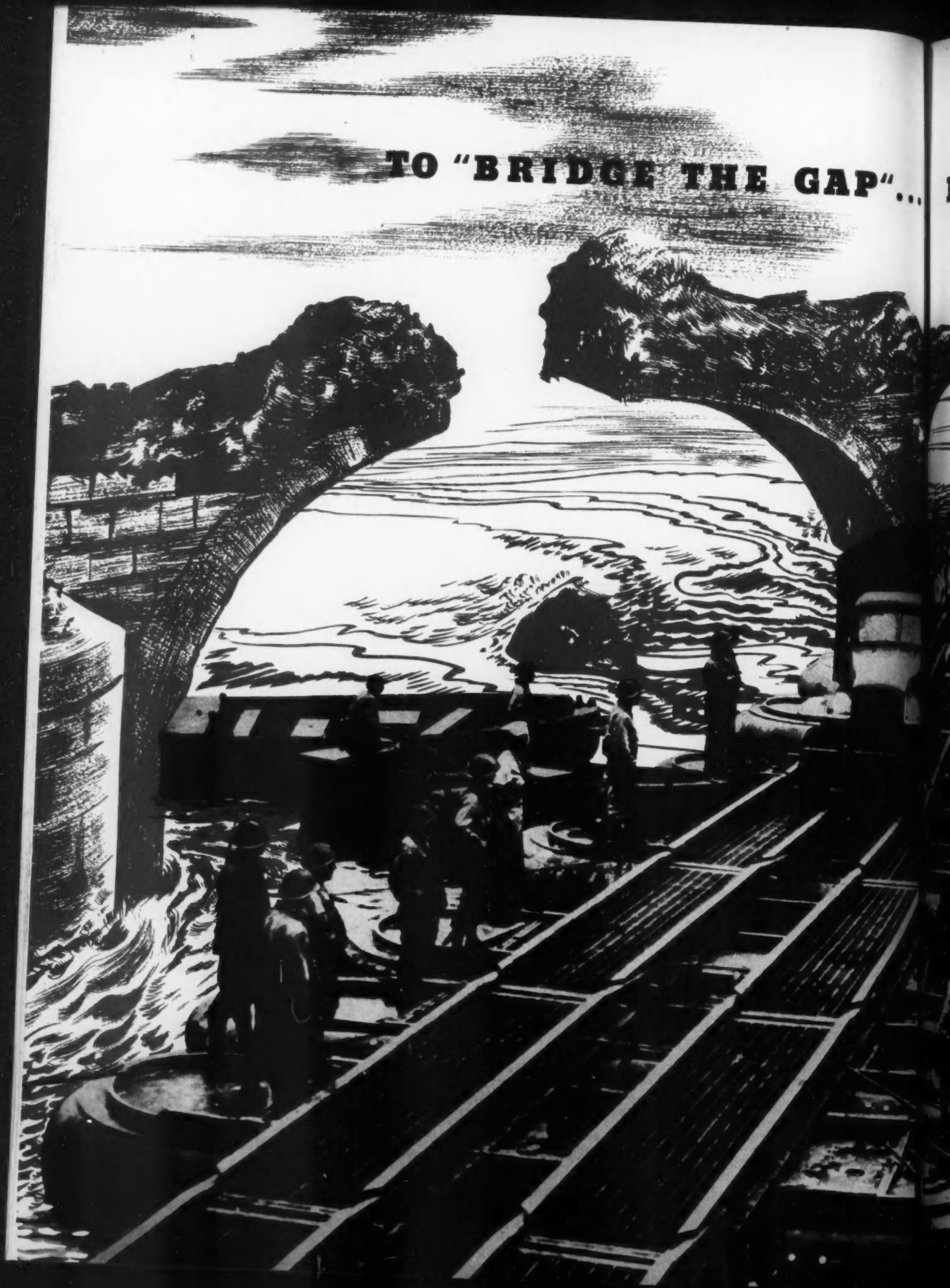
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Flavors

Peppermint Oil Industry in Canada Expanding

War-time scarcity and prices of peppermint oil have prompted cultivation of this plant in Canada . . . With governmental aid production has increased yearly and quality has improved

by DR. PAUL Z. BEDOUKIAN
W. J. Bush & Co., Ltd., Montreal, Canada

THE CULTIVATION OF peppermint has never received serious consideration in Canada although attempts have been made in the past by individual farmers in the provinces of British Columbia, Ontario and Nova Scotia. Since the beginning of the war, however, scarcity and high prices of peppermint oil have prompted cultivation of this plant. Encouraging results obtained to date lead us to expect that in Canada, even after the return of normal times, peppermint growing will continue as an established industry.

CANADIAN CULTIVATION

At present, peppermint cultivation is being carried out by a number of farmers in the southern part of Ontario and also in Quebec by the association of Les Producteurs de Menthe de Chateauguay. The writer has been in touch with growers and obtained quantities of peppermint oil. It appears that most of the farmers in Ontario began peppermint cultivation on their own initiative. The plants were obtained from Michigan growers and consequently the type of plant grown is the same as grown in the United States; namely, *mentha piperita vulgaris*. The Quebec growers are being greatly assisted by the Department of Agriculture of the Province of Quebec.

The present high prices of peppermint oil are more than offsetting the lack of experience of growers. Expansion of acreage planted is reported by some and investment of capital in stills and other equipment by others. Judging from our correspondence and purchases from various sources, the amount of peppermint oil grown during 1941 was small. The quantity distilled in 1942 probably exceeded two thousand pounds. This year's crop yielded between three and four thousand pounds of oil. In view of the fact that many growers indicate intentions of cultivating larger crops, next year's production may be considerably larger. Even this amount is of course far below the normal consumption of Canada.

Dr. Paul Z. Bedoukian

Most samples had a very fine aroma and flavor and compared favorably with American oils. There was, however, considerable variation in oils obtained from crops of different localities, possibly because of climatic conditions and also lack of experience of some growers. Our analyses of oils during the past three years show that there has been a distinct improvement in the quality and this is likely to continue as the growers gain more experience. As a general rule oils of Canadian origin contain a higher percentage of oxygenated products than American oils. Among the many oils examined we encountered two samples which had a menthol content of 64 per cent. Upon investigation it was found that this high percentage of menthol was due to abnormal conditions of harvesting the peppermint crop. Oils obtained from the same growers at a later date gave a normal menthol content of 52 to 57 per cent.

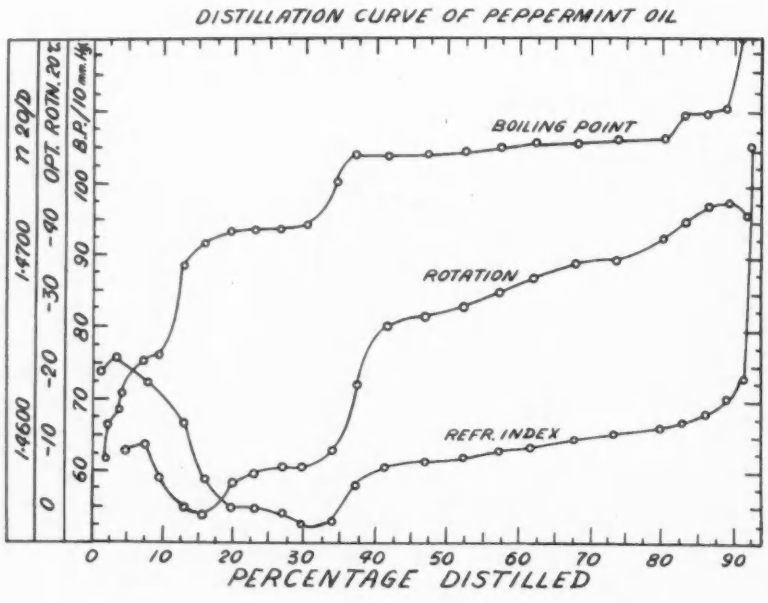
ANALYSES OF OILS

Three typical analyses of oils from different localities are given in the following table:

Density 25/25° C.	0.9092	0.8972	0.8992
Refr. ind. 20° C/D	1.4618	1.4606	1.4607
Rotn. 20° C.	—23.0	—23.5	—23.0
Total menthol	58.7	50.0	54.2
Ester content	8.9	4.9	5.2
Menthone content	12.7	18.9	19.0

Soluble in 70 per cent alcohol. One in 3.0 to 3.5 in all cases.

The last column represents the analysis of an oil obtained from peppermint grown in the Province of Quebec and distilled under the supervision of experts. A 225 ml. sample of this oil was carefully fractionated in a Whitmore-Fenske type column having an efficiency of about ten theoretical plates. The results of this fractionation are shown in the accompanying graph. It is apparent that this oil contained two or three per cent of low boiling constituents followed by seven or eight per cent of terpenes and cineol. The next two important fractions consist of menthone and free menthol forming about 68 per cent of the total volume. This agrees very closely with the determination of menthone and menthol through chemical analysis. Menthol is followed by menthol esters and other minor constituents boiling at about the same range. Following this there is a sharp increase in the boiling point. It appears that about 11 or 12 per cent consist of sesquiterpene and polymerization products. The final residue including the column hold-up consisted of about seven or eight per cent.



Examination of the boiling point, rotation and refractive index values of menthol reveals interesting facts. There seems to be a small but definite rise in the boiling point of the first and last part of menthol. The differences in the rotations and refractive indices are more pronounced. This indicates the presence of menthol or menthols other than l-menthol in the oil of *mentha piperita vulgaris*. It explains the failure of attempts to economically prepare U.S.P. menthol from American peppermint oil. Of the nine or ten menthol fractions obtained in the above fractionation only the last two or three were solids at room temperature and even those had a melting point below 42 deg. Centigrade.

OILS MEET U.S.P. COLOR TEST

All the Canadian oils met the U.S.P. color test—acetic acid and nitric acid. The dimethyl sulfide test was positive in all but one or two cases where an extremely weak test was obtained. This may be due to the escape of dimethyl sulfide during improper steam distillation.

In conclusion, our studies indicate that peppermint growing has extended northward from the United States and the oils obtained are essentially similar in character.

Cargo Availability

REVISED forms of the Statement of Cargo Availability (FEA 138) for shipments to Latin America are now available to exporters upon request to the Bureau of Supplies, Foreign Economic Administration, Washington 25, D. C.; its New York office, 61 Broadway, New York 6, N. Y.; Department of Commerce field offices; the War Shipping Administration, 39 Broadway, New York 6, N. Y.

The form has been considerably modified in size, format and questions asked, and exporters are requested to begin using this revised form as soon as possible. Use of the form will be obligatory for all Statements of Cargo Availability postmarked March 1, 1944.

Flavor Notes

THE ABILITY of syrup producing mills to manufacture sugar will be the yardstick to be used in the application of established maximum prices for cane syrup, according to recent announcement by the Office of Price Administration.

Small mills, in which farmer-growers process syrup exclusively from sugar cane are the only ones who are entitled to use the schedule of ceiling prices contained in the syrups and molasses regulation for "country cane syrup." Commercial factories producing both sugar and syrup must use the lower range of ceiling prices provided for in "commercial cane syrup." No change in the two established sets of maximum prices of cane syrup is involved in this clarifying action, which became effective Jan. 26.

The regulation discriminates more sharply between commercial cane syrup and country cane syrup. The amendment further provides for the regulation relating to discounts and class differentials.

BAY RUM RULING MODIFIED

The Food and Drug Administration has recently announced that during the present emergency, producers may offer bay rum containing isopropyl alcohol without action being taken against them, provided said bay rum is used solely for cosmetic purposes and informatively labeled.

"DRAFT" PROHIBITED

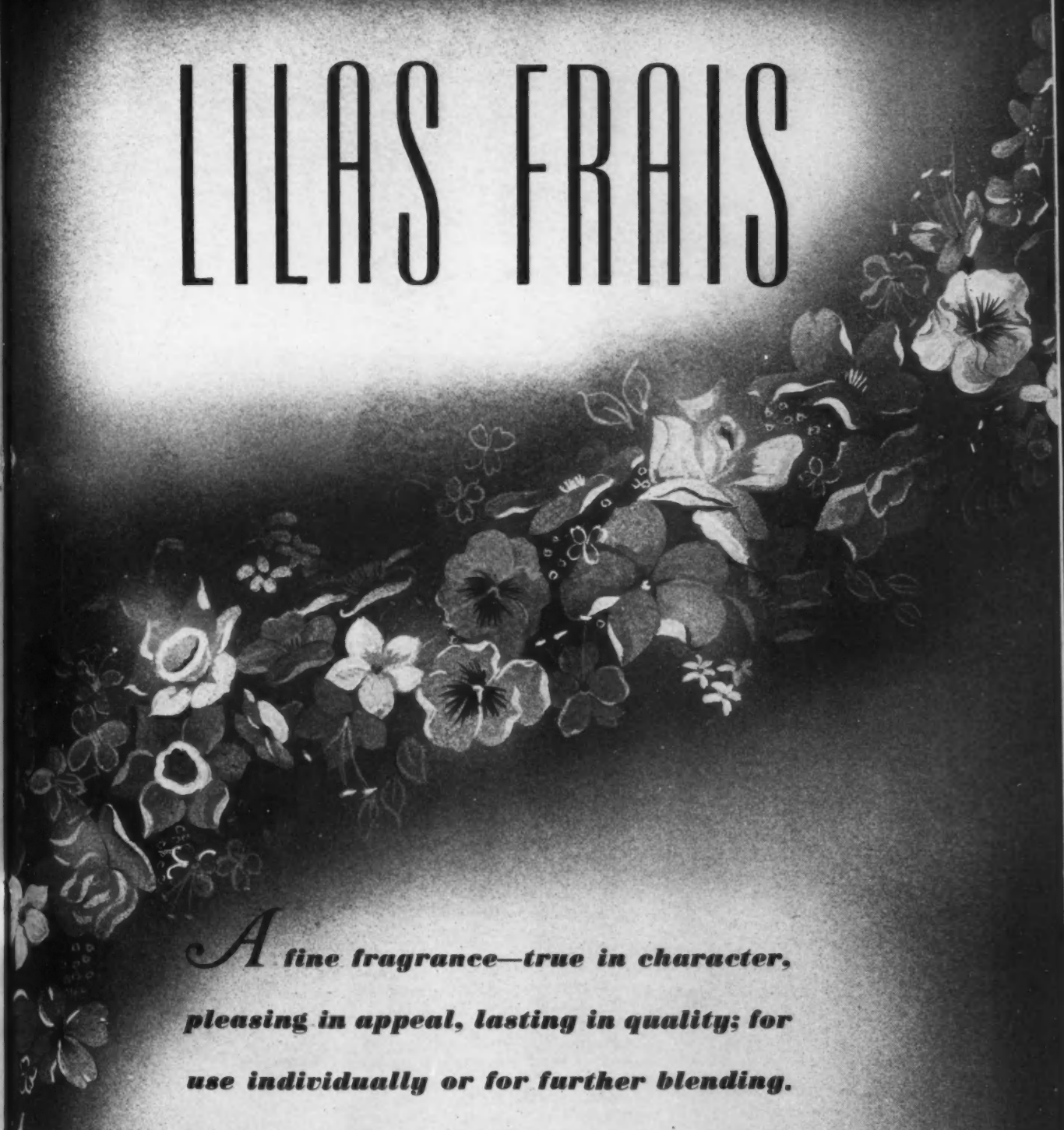
The use of the work "draft" in connection with the trade name or as descriptive of a bottled carbonated beverage to imply that the product is drawn or dispensed from a keg or container to the consumer or that it possesses flavors associated with draft beverages has been prohibited by the Federal Trade Commission. A specific case is that of the Silver Cup Beverage Co., which has stipulated with the Commission that it will cease and desist from use of the word "draft" in the aforementioned connection.

COCOA CROP

The Ecuadorean cocoa crop in 1943 was one of the largest in recent years. Receipts in Guayaquil in 1943 totaled 393,899 quintals of 101.4 pounds each, a gain of 33.6 per cent compared with 294,764 quintals in 1942.

The year 1943 was also very successful for the Dominican cocoa industry. The value of exports exceeded any previous year and the volume also may establish a record. The price of cocoa to producers in December fluctuated between 5.60 and 5.80 per kilogram.

LILAS FRAIS



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Estimation of Flavoring Materials in Dentifrices*

Procedure for separating the volatile oils from dentifrices, particularly the methods for determining methyl salicylate, phenols, carvone aldehydes, menthol, alcohols, anise, etc.

by HARVEY A. SEIL
Seil, Putt & Rusby, Inc., New York, N. Y.

THE COMMON FLAVORING agents used in dentifrices are peppermint, spearmint, methyl salicylate, cassia, cloves and anise. Less frequently used are thyme, eucalyptus and camphor. The predominant flavor is peppermint, often mixed with methyl salicylate. The amount[1] of flavoring used varies between 0.75 per cent to 4 per cent, depending on the oils used. Flavorings containing anise, cassia and cloves require less than those containing less powerful oils.

In order to separate the volatile oils from the dentifrice a suitable sample, about 200 grams for a paste with four per cent oil to a corresponding larger amount for those containing less oil, is introduced into a two-litre flask; sufficient water is added to give a thin suspension, and an excess of a strong solution of calcium chloride is added to form an insoluble soap to prevent frothing. The flask is then connected with an oil trap as shown in the *A.O.A.C. Methods of Analysis* 1940, page 470, and the oil is distilled according to the directions given. The distillation is continued until there is no increase in volume of the volatile oil, indicating all has been distilled.

The volume of the oil is read after it has become clear. Standing over night in the trap usually gives a clear transparent oil. The specific gravity of oil is taken and the percentage of oil in the sample is calculated. The refractive index and optical rotation of the oil are also determined. A study of these constants together with the odor of the oil gives valuable information as to its probable constituents. For example, an oil with a strong odor of peppermint with a high specific gravity, a relatively low optical rotation and a high refractive index, indicates the presence of methyl salicylate; whereas an oil with a high specific gravity, a high optical rotation and refractive index, may indicate the addition of menthol.

The various ingredients present in the volatile oil for the purpose of analysis may be divided chemically into alcohols, esters, phenols, aldehydes, ketones and hydrocarbons. Advantage is taken of the chemical properties of the different chemical groups for the separation and determination of the different constituents.

METHYL SALICYLATE

Five c.c. of the oil is measured into a separatory funnel, diluted with 50 c.c. of low-boiling petroleum ether (30 deg. C.) and shaken with 20 c.c. of normal potassium hydroxide. After the liquids have separated the aqueous solution is transferred to a second separatory funnel and washed with 20 c.c. of petroleum ether. Again after the liquids have separated, the aqueous solution is transferred to a third separatory funnel and washed with 20 c.c. of petroleum ether. After separation the aqueous solution is tapped off into a 250 c.c. Erlenmeyer flask. Ten c.c. of N/2 KOH is added to the first separatory funnel and shaken; after the liquids have separated it is transferred to separatory funnel No. 2 and then to No. 3, and finally added to the first extract in the Erlenmeyer flask. This is repeated once more with 10 c.c. of N/2 KOH, washing each petroleum ether extract successively as before.

The combined alkaline aqueous extracts in the Erlenmeyer flask are connected to a reflux condenser and boiled for two hours. This solution may contain methyl salicylate and phenols such as eugenol or thymol. After the saponification is complete, the solution is cooled, made just acid with hydrochloric acid using methyl orange as an indicator, and then alkaline with $NaHCO_3$. It is then transferred to a separatory funnel and extracted with ether, making four extractions with the ether and washing each extract with 10 c.c. of water successively.

PHENOLS

The ether solutions contain the phenols. These are combined and carefully evaporated in a tared fat flask. After the ether has evaporated it is allowed to stand in the open at room temperature and weighed at 15 minute intervals until the weight losses are constant. The percentage present is calculated. The odor of the residue is observed and if characteristic of a definite phenol, the presence of the phenol is confirmed chemically by making a suitable derivative or by a chemical determination such as the bromine titration for thymol or the benzoyl derivative of eugenol.

The aqueous solution containing the sodium salicylate is made up to the mark in a standard flask and the amount determined in a suitable aliquot as tetra iodo phenylene quinone (*A.O.A.C.* XXXIX 6) and the percentage of methyl salicylate present is calculated.

CARVONE ALDEHYDES

The petroleum ether solutions left after the extraction of the methyl salicylate and phenols are extracted next with 30 per cent $NaHSO_3$ following the same method of extraction as used with the N/2 KOH for phenols.

The bi-sulphite extracts are combined, an excess of Na_2CO_3 solution is added and the solution heated to decompose the addition product. It is then cooled and extracted four times with ether as indicated before. The ether extracts are combined, transferred to a tared fat flask and the ether

[1] Thomssen. *Amer. Perf.* 24, 527-530 (1929).

*Paper presented before the Scientific Section of the Toilet Goods Ass'n meeting held Jan. 26, 1944, at the Waldorf-Astoria, New York, N. Y.

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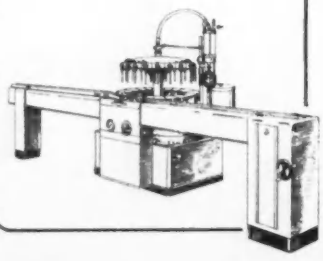

Civilization simply cannot tolerate another universal assault by Poverty, Hunger, Disease, Unemployment.

Peace table plans must include stamping out forever, terrors such as have stalked the world to the consternation of all peoples. The destruction of tangible and intangible values that have been centuries a-building, must cease.

Meantime, let us live in the sublime hope that "there's a great day coming," a day when evil shall disappear from the earth and gangsterism be no more. Idealistic? Of course! But faith in ideals has accomplished wonders in this world of ours . . . and will do so again . . . yes, on a larger scale.

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is carefully evaporated. The same procedure is followed as with the phenols. The residue is weighed and the percentage present is calculated. The residue will be either cinnamic aldehyde or carvone.

MENTHOL AND ALCOHOLS

The combined petroleum ether extracts left after the bi-sulphite extraction are combined and the petroleum ether carefully evaporated. The residue is mixed with its own weight of succinic anhydride and heated at 120 deg. C. for three hours, keeping the container stoppered to avoid loss of menthol. Twenty-five c.c. of water is added and the mixture heated under a reflux condenser for 15 minutes. It is then cooled and transferred to a separatory funnel. Sodium bicarbonate is added in small portions until the solution is alkaline. It is then extracted three times with ether, washing each extract with 10 c.c. of water successively. The aqueous solutions containing the sodium menthyl succinate and sodium succinate are transferred to a separatory funnel, acidified with HCl and extracted three times with ether, washing each extract successively with 10 c.c. of water. The ether extracts are combined and placed in a tared flask and the ether carefully evaporated. The residue of acid menthyl succinate is weighed; after weighing it is titrated and calculated as acid menthyl succinate. If the two results are substantially identical, the menthol present is calculated. If there is a divergence in the figures, the titrated solution is made strongly alkaline with NaOH and steam distilled. The distillate contains free menthol. This is extracted three times with ether after saturating the aqueous distillate with salt. The ether solutions are combined, the ether carefully evaporated and the menthol weighed. The optical rotation and melting point are taken. These determinations indicate the character of the menthol contained.

The ether extracts from the sodium menthyl succinate are combined and the ether evaporated. The residue is transferred to a 500 c.c. flask, water added to a volume of 100 c.c. and then saturated $KMnO_4$ solution assuring an excess. After standing at room temperature for an hour, the solution is heated, caution being taken that an excess of $KMnO_4$ is always present. When the oxidation is complete, alcohol is added to destroy the excess of $KMnO_4$. The solution is cooled and made up to the mark in a 250 c.c. standard flask and an aliquot of 200 c.c. filtered. This aliquot is placed in a separatory funnel, acidified with HCl and extracted three times with ether as indicated before. The ether extracts are combined in a tared fat flask, the ether carefully evaporated and the residue dried to constant weight. From the weight of anisic acid weighed, the anethol present is calculated. For confirmation the residue is titrated; if the volumetric result checks the gravimetric result, a melting point confirms the anisic acid. If the titration figure is high, it may indicate the presence of benzoic acid.

As large a sample as possible of the remaining distilled oil is placed in a flask and oxidized in the cold with saturated $KMnO_4$ solution according to the method of Dodge[3]. The total amount of cineol and camphor is calculated. The combined cineol and camphor is dissolved in petroleum ether and placed into a separatory funnel. The petroleum ether solution is extracted with 10 c.c. of concentrated H_2SO_4. After the liquids have separated, the H_2SO_4 is transferred to a second separatory funnel and washed with petroleum ether. The solution in the first funnel is again extracted with 10 c.c. of concentrated H_2SO_4 which is washed with the same petroleum ether in the second funnel after the first 10 c.c. of H_2SO_4 has been added to 500 c.c. of water in a litre flask, with stirring. The second acid wash is added. The solution is distilled and the camphor in the distillate is extracted three times with ether as before. The ether extracts are combined, placed into a tared flask and carefully evaporated. The residue is dried to constant weight and the percentage of camphor calculated. The cineol present is readily calculated by subtracting the percentage of camphor from the combined cineol and camphor present in the distilled oil.

[3] Dodge. *J. Ind. Eng. Chem.* 4. 259 (1912).

Development of Synthetic Menthols

WITH THE PRACTICAL disappearance of natural menthol from the market, various synthetic menthols have made their appearance and created considerable interest.

Natural menthol, $C_{10}H_{20}O$, is a secondary saturated alcohol with a melting point of 42 deg. C. and is laevo-rotary.

W. E. Hoggett, according to an article in *Chemist and Druggist*, 138, 1942, p. 97, has recently investigated the various isomers of menthol and arrived at the following conclusions:

Altogether four isomeric forms of menthols are possible:

1. Menthol.
2. Neo-menthol.
3. Iso-menthol.
4. Neo-iso-menthol.

Each of these may occur in two optically active and one racemic modification.

Racemic menthol can exist in two crystalline modifications, whose melting points are 28 deg. C. and 38 deg. C. respectively. The higher melting form has the property of passing over to the other modification below its melting point, depending on conditions and the rate of heating, with the result that racemic menthol may melt anywhere between 28 deg. C. and 38 deg. C.

The manufacture of synthetic menthol produces a mixture of various isomers, which can be brought to equilibrium by suitable treatment. The purity of menthol isomers cannot be determined by their optical rotation unless the conditions are strictly defined.

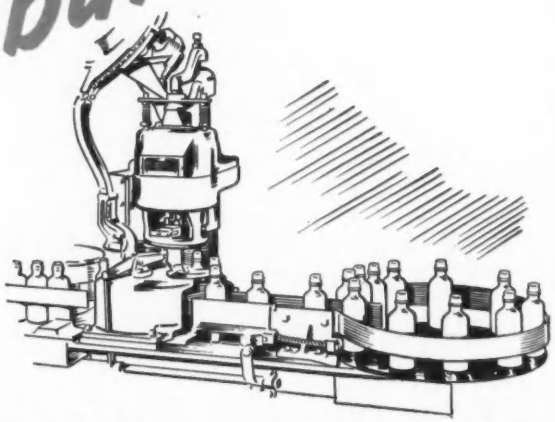
The differences in physiological behavior between the various isomers are merely relative. Dextro-rotary neo-menthol, laevo-rotary menthol, and dextro-rotary iso-menthol were found by Macht to produce some degree of local anesthesia.

Some investigations indicate that the iso-menthol isomers are more toxic than the others, whereas Seel found racemic neo-menthol and racemic iso-menthol to be only half as toxic as laevo-rotary menthol and racemic neo-iso-menthol to be equally as toxic as laevo-rotary menthol.

One of the consequences of any war is the acceleration of technical progress. This enters practically every field and will no doubt make itself felt in regard to such important substances as menthol and its synthesis. The manufacture of synthetic menthol, however, has been considerably retarded, due to the lack of raw materials. If these materials again become more available with the current improvement in the shipping situation, rapid progress will undoubtedly be made in this field.

With shipping conditions improving so considerably, even now before the war is over, it is a probability that this work will be continued prior to the declaration of peace.—*Schimmel Briefs.*

Not F.O.B. but C.O.B.*



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Soap

American Soap and Glycerine Producers Ass'n Report

Soap and glycerine industry and 17th annual meeting of the Association of American Soap and Glycerine Producers was held under the management of Roscoe C. Edlund. The report follows

THE COMBINED meeting of the Soap and Glycerine Industry Meeting and the 17th Annual Meeting of the Association of American Soap and Glycerine Producers was held at the Waldorf-Astoria, on January 21, 1944. under the direction of Roscoe C. Edlund, manager of the Association. Preceding the business session of the afternoon was a luncheon in the Peroque Suite.

President E. H. Little, in his opening address outlined the work that had been done by the association during 1943 and what the industry must look forward to in 1944. He also emphasized the fact that the association serves the entire industry whether member or non-member.

E. H. Little

During the past year, Mr. Little said, the "association has worked with Government departments and various task groups in every way possible to secure necessary fat supplies and to produce sufficient soap to provide the required glycerine and soap products."

The Association and the industry has worked wholeheartedly with Government to effect saving in all branches, and it has been successful with the result that it has been unnecessary to curtail soap production sharply or even to ration it, nor does there seem to be any likelihood in the future.

Looking forward to 1944, we are most certainly faced with "continued problems, many of them. . . . In looking forward we should concern ourselves specifically with fat supplies and their costs, post-war markets for soap and post-war markets for glycerine. . . .

"We should also make all plans possible to expand our business in order that we may pull our full weight in the post-war period, employ as many men as possible, and shoulder all the responsibilities with which we shall be faced."

Mr. Little then took up the plan for an increase in soap consumption; the problem of fat supplies and their costs dependent upon Government controls, "which in turn may be modified as a result of high domestic production, upward trends of imports or modified demands for Lend-Lease, United Nations Relief and Rehabilitation and commercial export."

The very excellent and successful fat salvage program must go on; development of post-war markets for soap and glycerine.

In closing Mr. Little thanked the Association and all its members for its fine cooperation and service, as well as Government members who had cooperated with the industry and looked forward to that same fine cooperation in the future.

MR. EDLUND PRESENTS MR. FALK

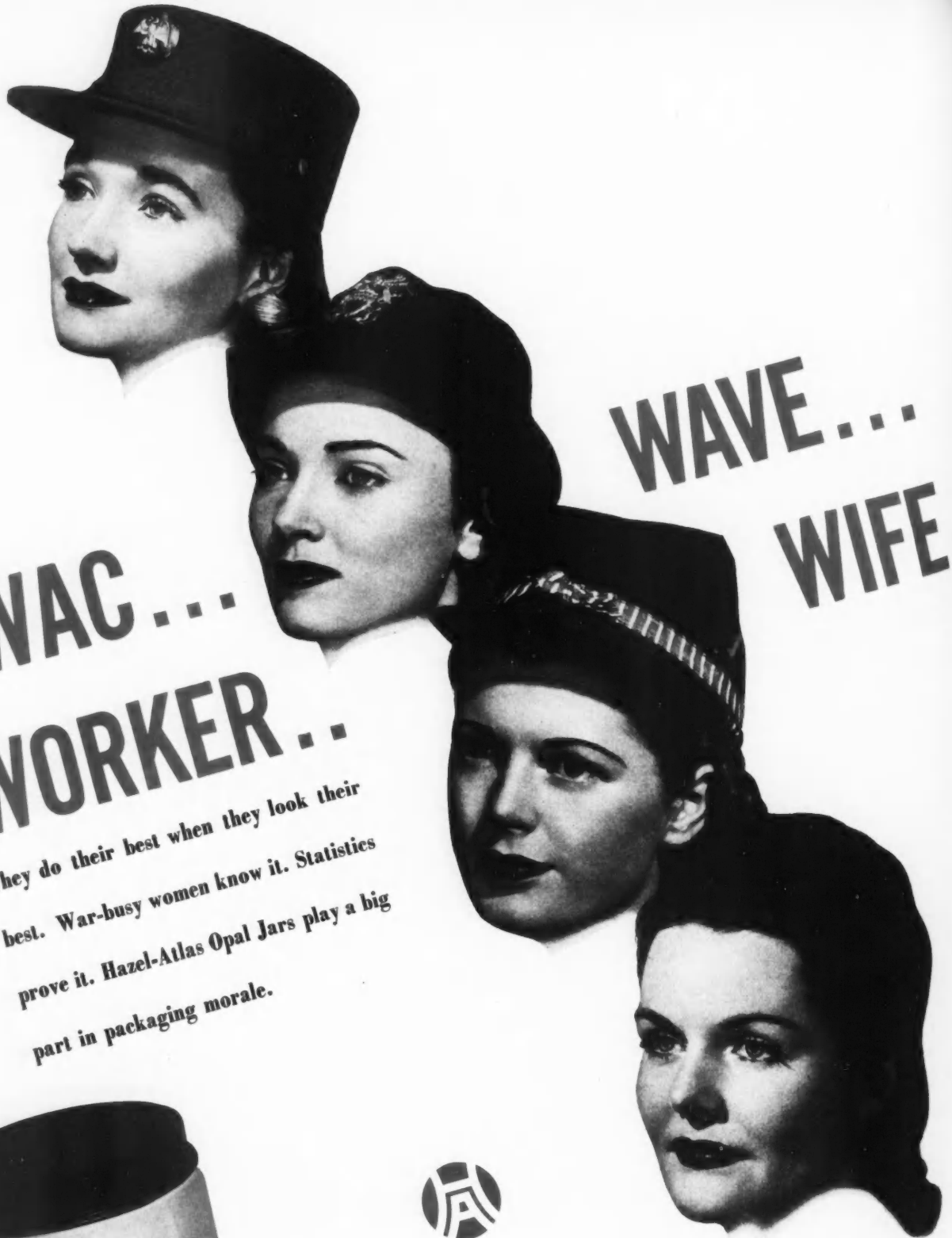
Mr. Little then turned the meeting over to Mr. Edlund, the manager of the Association of American Soap and Glycerine Producers, who introduced the first speaker, Mr. Leon Falk, Jr., chief of the Fats and Oils Branch of the Food Distribution Administration.

FATS AND OILS BRANCH

Mr. Falk dwelt mainly upon the make-up of the Fats and Oils Branch; the branch being divided into five divisions —an Edible Oils Division, headed by Jack Crutcher, formerly of Wesson Oil and Snowdrift Sales Co.; an Industrial Oils Division, headed by J. V. Thempson, formerly of the Thempson Paint Co.; a Program Policy Division, headed by Herman Chapman, formerly director of the Bureau of Business Research, Alabama University; an Imports and Allocations Division, headed by Thomas S. Pritchard, formerly of the Wilbur Ellis Co.; and a Soap and Glycerine Division, headed by Dr. C. William Lenth, formerly a research fellow with the Miner Laboratories of Chicago, working on glycerine research for your Association. There is also an Appeals Committee, composed of John Baker, Dr. Lenth, and Thomas Lydon. Mr. Pritchard acts as our enforcement officer.

With this set-up Mr. Falk went on to expatiate on how the amount of fats and oils available were estimated and then allocated between the different industries. He also told of how the British and Canada were cooperating with the committee to receive the necessary amounts to meet their rationing quotas.

Mr. Edlund in commenting on Mr. Falk's speech pointed out the importance of the Appeals Committee and the assistance that it could give to those who have sometimes suffered un-



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due hardship because they did not realize that this committee could give them any deserved relief.

The next speaker of the afternoon to be introduced was Dr. C. W. Lenth, chief of Soap and Glycerine Division, Food Distribution Administration. Dr. Lenth, being probably the one closest to the industry and with whom we consult with most often in Washington, spoke on:

Soap-Glycerine Outlook for 1944

"Most of you are acquainted with A. E. King, the chief of our Soap Section, and W. A. McConlogue, chief of the Glycerine Section. Dr. George S. Jamieson, author of the monograph on Vegetable Fats and Oils, is chief of the Inedible Animal Fats Section, although his duties are largely those of a consultant on vegetable oils.

"The Soap Section handles the problems arising from the various orders affecting soap and assists the Government agencies in their soap procurement problems. The responsibility for the glycerine recovery order also lies in the Soap Section, since the major problems are those which relate to soap. The Glycerine Section is assigned problems concerned with the supply and distribution of glycerine, including until recently, the mechanics of glycerine allocation.

SUPPLY IN FIRST QUARTER OF 1944

"In addition to the problems of soap created by specific orders, there is the general problem of availability of raw materials for soap manufacture. We have recently been revising our estimates of supplies of fats and, in the light of these estimates, it appears that there will be sufficient fat to maintain the present level of soap production this quarter.

"As you know, the fat allocations for the various claimant agencies, including those for civilian soap, are made on the quarterly basis, and any estimates for ensuing quarters are purely tentative.

"You may be interested in a few of the figures contemplated for the first quarter. The fat needed for civilian soap is 448 million pounds, that needed for military and export purposes is 70 million pounds, or a total fat requirement of 518 million pounds. This requirement will be met by about 315 million pounds of tallow and grease, 45 million pounds of coconut oil, 40 million pounds of foots, and about 120 million pounds of miscellaneous fats and oils, including lard, edible tallow, vegetable oils and fish oil.

"I mentioned a minute ago that of a total of 518 million pounds of soap fats, 70 million pounds are required for military and export purposes. This point deserves some emphasis, since that 70 million pounds are equal to nearly 16 per cent of the civilian soap requirement. I am calling this to your attention because certain companies are not assuming their full responsibility in furnishing military and export soap, and we are sure that, knowing the requirements, you will do exerything possible to take your share.

"So far, I have confined my remarks to the estimates for the present quarter. You are undoubtedly interested in our estimate for the balance of the year. Since these estimates still are in a preliminary stage, I am not at liberty to divulge the exact figures. I am able to tell you, however, that there appears need to use for soap-making substantial quantities of linseed and castor oils. In England soap makers are required to use 20 per cent of linseed oil in their formulas, and we strongly recommend that you give serious consideration to using as much linseed oil or castor oil as you can.

"Linseed oil raises a special problem for manufacturers of soda soap, since if any substantial quantity is used, it is necessary to hydrogenate it. We are currently surveying the hydrogenation facilities of the country, and expect to be able to determine how much linseed oil can be hardened.

"The potash soap makers, however, can use some linseed oil without hardening, and since they will be allowed very small quantities of soybean and other vegetable oils, I recommend that the potash soapers give very serious thought to the use of these oils.

"By the use of these oils, the over-all picture will be considerably aided, and more drastic measures may be avoided.

DISTRIBUTION OF SOAP PRODUCTS

"Under the present quotas, you are doing a fine job of distributing your products in the face of an unprecedented consumer demand. In spite of your good work, however, it is probable that any substantial change in quotas would make your task almost impossible. Consequently, it seems to us that the choice really lies in your hands, since the materials are available from which soap can be made if you choose to employ them. I have not been able to paint a very optimistic picture, but I believe that you prefer to face the facts as we see them in order that we may all work together to solve the problems.

POSSIBLE AMENDMENT TO FDO-42

"Although I did not mention Food Distribution Order No. 42 specifically, my foregoing remarks, of course, were closely allied with that order. As you know, the current soap quotas are:

Packaged soaps	— 90% of the average of 1940 and 1941 use
Bulk soaps	—110% of the average of 1940 and 1941 use
Hand pastes	—150% of the average of 1940 and 1941 use

This separation of soap into three broad classes was based on our estimates of the relative requirements for each class. The system has been in operation for more than three months now and in general it appears to be serving the purposes intended.

"However, we have had some dissatisfaction expressed by a few soapers at being frozen at their 1940-41 distribution of soap manufacture by classes. Although our intent was to provide the estimated quantity of each class of soap, we have found that a rigid adherence to this policy works undue hardship as it provides for no flexibility in production schedules. Consequently, an amendment to FDO 42 is under consideration which provides for a small amount of switching from one class to another. As is usual with such provisions, it will help the small manufacturer to a greater extent than the large one, since the quantity which may be diverted is a fixed number of pounds. Since the order is not published, I am not in position to tell you the exact quantity which is under consideration. Other minor changes in the order are under consideration, but these are largely of the sort intended to clarify the phraseology.

FOOD DISTRIBUTION ORDER 86

"A second order affecting the soapers is FDO 86. As you know, the intent of the order was to produce more pounds of soap from the available quantity of fats without substantially reducing the quality. This order requires the use of rosin or builders in the various types of household soaps. With few exceptions this requirement has been adopted by the soapers without major difficulties.

"Another provision of the order regulates inventories of industrial soap consumers. This caught a number of consumers with long unbalanced inventories, and we had a large number of appeals. In general, these appeals were granted by permitting the company to figure its inventories of different soaps separately. Most of them have their houses in order now, and the number of appeals has dropped considerably. No major change in FDO 86 is under consideration.

FDO-33 AND FDO-34

"The third order affecting you is FDO 33, the glycerine recovery order.

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This order was amended January 1, raising the quantity of fats from which no glycerine recovery is required. In addition, the same exempt quantity is given to the large manufacturer as to the small one. This exempt fat may be used in any way desired. It may be used to make cold process soaps or it may be added to kettle soaps, thus raising the glycerine content of those soaps. Of course, the reason it was possible to relax this order is that the glycerine situation has improved.

"Further reflecting that improvement, we revised controls over glycerine (FDO 34) on January 1, removing glycerine from allocation and allowing increased quantities to many types of users. The improved situation is due to decreased export requirements and increased foreign and domestic supplies.

"I shall be glad to answer any questions that you may want to ask. I want to emphasize, however, that the answers that I give from the floor cannot be considered official as official interpretations are made only in writing."

QUESTION: GLYCERINE RECOVERY

MR. FEDERLINE: In the meeting of the potash soap makers this morning there were a number of very interesting statements made by Dr. Lenth that I think might well be repeated here for the benefit of certain of the small producers. One of those is a statement of the condition under which small producers who use more than 150,000 pounds of fats and oils in a quarter can be relieved from glycerine recovery.

DR. LENTH: That brings us right back to the point that Mr. Falk and Mr. Edlund mentioned about appeals. We are prepared to listen to appeals from the smaller soap companies whose use of fats just slightly exceeds 150,000 pounds. We had to pick 150,000 pounds largely on the basis of the quantity of glycerine we expected to lose and on the number of companies which would be affected. Of the total soap and glycerine industry about 75 per cent of the industry, in number of producers, is exempt from glycerine recovery, and about 2½ per cent of the glycerine production. If we increased that 150,000 pounds broadly to everyone, we would include people who have always recovered glycerine, and such a step could possibly have resulted in too great a loss. Therefore we had to decide on exemption of 150,000 pounds. We know, however, that there are some companies, particularly in the potash soap industry, which never did recover glycerine, are not set up to do it, and have been under considerable difficulty for the past year in getting fatty acids, and we are willing to listen to appeals from such companies and to give serious consideration to granting relief. We will probably give especially serious consideration if you use linseed or castor oil.

MR. EDLUND: In order to move on schedule, we will turn now to the OPA section of the meeting.

The first OPA speaker is William L. Sims, II. He is the man in OPA to whom OPA's Soap and Glycerine Unit reports. For this reason, I think we are fortunate in that Mr. Sims was for 20 years in the American soap industry. That has been his life work. Most of that time, he served in Europe as European Manager for the Colgate-Palmolive-Peet Company with responsibility for a wide variety of countries; and then from 1940 until late in 1943 he was assistant to the President of that company, who is also our Association president.

After that, Mr. Sims retired to his citrus groves in Florida, but it wasn't long before OPA climbed up an orange tree and got him down and brought him back to Washington.

Mr. Sims is price executive of OPA's Chemicals and Drugs Branch, and since the Soap and Glycerine Unit of OPA is a part of that branch reports to him, it is particularly pleasant that we can have him here today. We welcome Mr. Sims as a former soaper, and also as our price boss in OPA—Mr. Sims.

Organization for Price Control

"I think we are practically over the hump on regulations in OPA. There probably will be some to be promulgated in the future but very few. I rather believe that we are in the amendment stage, and it certainly shall be my policy to see wherein we can soften the impact of price control without reducing in any way the effectiveness of that control. I refer specifically, for instance, to the reporting provisions.

PRICE REGULATIONS

"When I got into OPA, you will be interested to know that I found immediately that the soap regulation was one of the models around the shop. The people working in OPA think of the soap and glycerine industry as an industry which is far-sighted, and certainly the negotiations carried on with OPA in the early days by your industry were carried on by men of vision. They left that impression there, and I think the results have proven that they exercised excellent judgment.

"So, from the standpoint of pricing in OPA, it has been very satisfactory, and I feel the industry finds that these regulations have worked out well for them.

OPA PRICE DIVISION

"I think you would be interested perhaps in the set-up of the Price Division. We have Mr. Chester Bowles at the top, as you know, and then we have Mr. James Brownlee, of Louisville, Kentucky, who was with General Foods and with Frankfort Distilleries, and who is Deputy Price Administrator. Then we come to Mr. Clarence Slocum, who was the president of a paint concern in New Jersey. Mr. Slocum has in his division iron and steel, nonferrous metals, lumber, paper, rubber, machinery, and chemicals and drugs. In the Chemicals and Drugs Branch we have soap and glycerine, vitamins, heavy chemicals, coal tar, drugs and fine chemicals, cosmetics, alcohols and solvents, plastics and resins, and protective coatings.

"From time to time in OPA, policy statements are issued. These statements are formulated after various suggestions flow from the price executives upward, and a price executive can be a great factor in making these policy suggestions. In order to do that efficiently, I believe that he should get out on the trail, so to speak, remove himself from the isolation of his office, and get out where the impact of price control is having its effect, find out what is going on, and study the problems of industry. That is what we are doing here today. That is something that we are encouraging generally and we hope that it will pay big dividends for you."

In closing, Mr. Sims called attention to the need of OPA in the post-war period. He said in part, "It is in connection with the necessity for us as citizens and for you as an industry to crystalline your opinion about the necessity for OPA in the post-war period."

Mr. Sims further remarked that unless OPA should relinquish control on prices "as commodities increase in volume and flow into the hands of trade so that the effect of any release of price control will be minimized. Unless we do that, I fear that we would be in great jeopardy of losing this economic battle that we have so far been able to handle quite satisfactorily for our country."

Mr. Edmund next introduced Edoma W. Ransom, head of the Distribution Section of the Chemicals and Drugs Branch and who since last October has been the head also of the Soap and Glycerine Unit. Mr. Ransom spoke on:

Price Control

"Insofar as OPA's Soap Unit is concerned, we are primarily, as you know, concerned with price control. At the same time, we realize that the country must have both soap and glycerine, and it follows that the best way of getting these products is for the companies

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making them to be able to stay in business.

"In connection with price control, I am reminded of a thought that I had when President Little was speaking about post-war markets and prices. It is good perhaps to think a moment that insofar as post-war markets are concerned, America would not be able to enter those markets with inflated prices. Therefore, price control is certainly helpful in that regard.

"I am head of the Soap Unit. Among other things, we have glycerine and soap products. Not only are we supposed to preside over these commodities, but we should be a source of information. We are glad and willing to cooperate and to give you whatever information we can. You should not hesitate a minute to call on us when you are in doubt about a regulation or when you are in doubt about a price. Write us a letter, call us up, or if you are in Washington come in. We are always glad to see you. We pick up something helpful even if you just drop in for a visit. Please keep that in mind.

SOME CURRENT PROBLEMS

"You are familiar with the foregoing. Some of the other things we have been thinking about are to permit the listing of the prices of soaps that were not previously listed. That would mean an amendment to MPR 390 and 391.

"We have in mind, possibly, a Maximum Price Regulation for bulk soaps. There is some bulk soap getting into the retail trade—not an alarming amount, but something we have to think about. To the extent that this problem exists, it is one that I think the industry and the Office of Price Administration can handle very nicely in the same cooperative spirit that has characterized this meeting today.

"Then there was the project with which you gentlemen are familiar (particularly those of you who are members of OPA's Industry Advisory Committee) which has to do with soaps sold through stores that are not chiefly concerned with the distribution of foods. That project is dead for the moment. It has to do with maximum prices on soaps sold through drug stores or department stores.

LINSEED AND CASTOR OIL

"Up until yesterday we were steaming along nicely clearing our docket of problems, and then our good friend, Dr. Lenth, drops a bombshell into our quietude with his linseed and castor oil. Again that will be a problem upon which your industry and our office must cooperate. I am glad to say, too, that OPA has established with the War Food Administration a joint committee to assist in solutions of pricing problems."

Mr. Edlund next introduced Walter F. Straub, OPA director of Food Rationing. Mr. Straub talked on the subject:

Food Rationing and Points-For-Fats

During the course of his discussion on the subject of the possibility of soap rationing, he assured the members that there was no such intention in the minds of OPA directors. He compared the situation of the last war with that of the present and showed that the contrast in the situations was so great that no comparison could be made.

Mr. Straub stated that the soap distribution is improving; that it was better 30 days ago than it was 60 days and it was still on the upgrade.

Another plan that has proven most effective is the Points-for-Fats Plan. Various other suggestions were mentioned, such as trimming meat a little closer so that there might be a great deal more fat available for soap manufacture right out of the packing house.

The following two speakers dealt with the

Fat Salvage Campaign

Herbert M. Faust, director of WPB's Salvage Division, spoke at considerable length of the work the Division has been doing in the salvage of iron, steel, tin cans, as well as waste paper.

Wilder Breckenridge, manager of American Fat Salvage Committee also told of the work the Association had done, and the very remarkable results that had been achieved.

Tribute was paid to the work that Mr. Edlund had done in this connection.

ELECTION OF OFFICERS

Following the speakers directors were elected for the year. New directors are Homer D. Banta, Iowa Soap Company; Oscar M. Burke, Manhattan Soap Company, and Daniel M. Flick of Armour and Company.

The directors re-elected E. H. Little, Colgate-Palmolive-Peet Company, president of the Association for the coming year. Gordon Fulton, Beach Soap Company, was chosen eastern vice-president; R. R. Deupree, Procter and Gamble Company, mid-west vice-president, and A. Haas, Newell-Gutradt Company, western vice-president. The directors re-elected N. S. Dahl, John T. Stanley Company, as treasurer, and Manager Roscoe C. Edlund, as secretary.

POTASH SOAP DIVISION

The Potash Soap Division met in the morning and discussed problems of that branch of the industry with the government officials.

Russell H. Young, Davies-Young Company, was re-elected chairman, and Herbert Kranich, Kranich Soap Company, vice-chairman, and A. P. Federline of the Association office, secretary of the Division.

The members of the Division presented Mr. Federline with a fine brief case in token of his services during the year.

Regulation of Sales of "Private Formula" Cosmetics

THE REGULATION governing manufacturers' sales of "private formula" drugs and cosmetics, Maximum Price Regulation 282, was revised this month by the Office of Price Administration to provide pricing methods that are simpler and more uniform than those previously in effect, and that will conform more closely to established practices of the industry.

The changes are:

1. A new simplified method of selecting a "most comparable product."
2. A uniform method of filing a specified reporting form and statement in pricing a new product.
3. A new section providing a method for adjusting manufacturers' prices to compensate for increased production costs.

The revision provides that the maximum price for a new product will be established by multiplying the current unit direct cost by the allowable mark-up. This mark-up factor is obtained by dividing the established maximum price of the most comparable product by its current unit direct cost. Any increased cost since establishment of a maximum price for the most comparable product will be absorbed by the manufacturer in a reduced mark-up for the new product.

Four factors are now to be considered in determining the appropriate comparable product as follows:

1. Same or similar manufacturing process.
2. General use of the product.
3. Same or similar physical form.
4. Units produced in any one single batch or continuous run.

The revision went into effect February 11th, 1944.

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U.S.I. CHEMICAL NEWS

February ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1941

Ethyl Carbonate Gains Stature As Raw Material

Synthesis Possibilities Overshadow Original Uses as Lacquer Solvent

Ethyl carbonate was first produced in this country by U.S.I. to provide an extremely pure lacquer solvent. Its low acidity, mild odor and high stability have made it especially desirable for such special purposes as the coating of cathodes for sensitive radio tubes. However, as the starting point for an interesting group of organic reactions, ethyl carbonate is now assuming far greater importance.

Synthesis of Phenobarbital

The Claisen condensations of ethyl carbonate in the presence of metallic sodium are of particular interest. In the manufacture of phenobarbital, for example, it is reacted with benzyl cyanide to give ethyl alpha-cyano-phenylacetate, as the first step. Similarly it condenses with other cyanide derivatives to form the half nitrile of the corresponding malonic ester. Still other Claisen condensations include:

1. With esters of aliphatic acids and of aryl substituted aliphatic acids, it gives an alpha-carbethoxyl derivative, which is a derivative of malonic ester:
   (a) with ethyl acetate, it gives ethyl malonate, and also ethyl methanetricarboxylate, which is formed by the substitution of a second alpha hydrogen with the carbethoxyl group.
   (b) with ethyl phenylacetate, it gives ethyl phenylmalonate.
2. With ketones, it gives beta-keto-esters:
   (a) with acetone, it gives Ethyl Acetoacetate.

   Exceptions. In some cases, there is formed the alkyl carboxylic ester of the enol-form of the ketone instead of the beta-keto-ester. Ketones which condense rapidly with themselves in the presence of sodium ethoxide give very poor yields or no reaction at all with ethyl carbonate.

(Continued on next page)

New Pour Depressors Made With Dibutyl Phthalate

Condensation of chlorinated paraffin wax with dibutyl phthalate, using aluminum chloride as the catalyst, yields an oil-soluble product possessing valuable pour depressing properties. The reaction, according to the patent just issued to a New Jersey inventor, is carried out in two stages, followed by dilution of the reaction mixture with kerosene and hydrolysis of the catalyst with alcohol and water. The kerosene extract is distilled at 600 deg. F., and the product recovered as residue.

The pour depressor potency of wax modifiers made by this process were tested by blending in a wax-bearing oil. The following results are shown for Example No. 1.

	Pour point
Original oil	+ 30 °F
Original oil + 1% product	+ 5 °F
Original oil + 5% product	— 20 °F

Indalone a Vital Ingredient in New All-Purpose Insectifuge

Insect Repellent Developed by Government Proving Effective for Wide Variety of Conditions

In the steaming jungles of New Britain, at bleak outposts on Kiska, along the runways of African air bases, our fighting forces have been unanimous in naming insects as one of their most ferocious foes. The trouble with this "air borne" enemy has been that repellents which worked well in one area failed in others. Certain insects in the Aleutians would be undaunted by chemicals which held their tropical prototypes at bay.

As a direct result of intensive research conducted by government agencies, there has now been developed an insect repellent which performs with high effectiveness in all parts of the world, against all types of insects, including mosquitoes, biting flies and chiggers. It promises to be a factor of tremendous importance to the morale and combat efficiency of all branches of the service. Although the complete composition of the product cannot be revealed at present, it can be stated that one vital ingredient is U.S.I.'s Indalone.

A Pre-War Development

Indalone was introduced by U.S.I. several years ago and quickly won acceptance both as an insectifuge and as a solvent for rotenone in insecticides. The product owes its unusual repellency against biting flies and mosquitoes to its bitter taste and to its effect on the nerve endings in the feet of the insects. It is easy to apply, long lasting.

Post-War Prospects Bright

The pre-war success of Indalone, coupled with the current development of an all-purpose repellent, point to post-war markets of

(Continued on next page)

Shrinkproofs Wool with Alcoholic Solutions

Reductions ranging up to 65 per cent in the felting shrinkage of wool socks have been made without significant loss of bursting strength, according to a report on recent investigations made under the auspices of the Council for Scientific and Industrial Research of Australia. The method involves treating loose socks with 2.5 per cent alcoholic caustic potash for 20 minutes, centrifuging, and steeping in alcoholic sulfuric acid. The socks are again centrifuged and then rinsed, successively, with water, an aqueous solution of sodium bicarbonate, and a cationic softening agent which serves to improve the handle. For successful results, temperatures must be closely controlled, and water content of the alcoholic solutions must be kept between one and five per cent.

Always a matter of vital concern to fabricators of wool, effective shrinkproofing is doubly important today, when the comfort of our armed forces depends so heavily on wool clothing. Thus the new process promises very tangible benefits for the immediate, as well as the postwar future.

Official Photo U.S. Marine Corps

U.S. Forces on a South Pacific island after bitter, but successful invasion. In the future our boys will have one less enemy to fight — thanks to the Government's new all-purpose insect repellent.

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February ★ **U.S.I. CHEMICAL NEWS** ★ 1944

Photographic Processing Accelerated by Alcohols

A recently-awarded patent states that substantial increases in developing and fixing speeds for certain films can be obtained by the use of ethanol or several other alcohols in the processing solutions. Ketones such as acetone are also stated to be useful.

Photographic layers of cellulose ethers containing from 39 to 53 per cent ethoxide process very slowly in the usual developing and fixing solutions. As a result of its pronounced swelling action, alcohol markedly increases the rate of penetration of these solutions, thus cutting the time needed for completion of the reactions.

As an example of a developing solution the patent gives the following make-up:

Developing Solution

p-Methyl amino phenol sulfate	grams– 3.1
Sodium sulfite	grams–45.0
Hydroquinone	grams–12.0
Sodium carbonate	grams–67.5
Potassium bromide	grams– 1.9
Water to make	liters – 5
Ethyl alcohol	grams–2762

Cement Rock Flotation Improved by Alcohol

An improvement in the recovery of cement rock values by the use of froth flotation and an organic promoter is described in a recent patent. The promoter is selected from the group consisting of higher fatty acids and mixtures or soaps of such acids. It is used diluted with at least one aliphatic alcohol, the alcoholic content being from 9% to 20%.

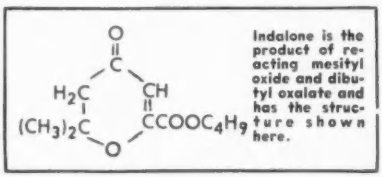
Process of Refining Mineral White Oils

A patent just issued to a New Jersey inventor describes the following process: A petroleum oil is first treated with sulfuric acid of above 93% concentration to remove substantially all the unsaturated and color-forming bodies. Sludge is then separated and the oil neutralized with an alkaline solution. To remove the sulfonate soaps formed, the oil is treated with about 50% aqueous alcohol. The oil is now treated with from 0.5% to 1.0% of an anhydrous metallic chloride, sludge is separated, and a final treatment with 0.01% to 1% anhydrous caustic alkali is applied.

All-Purpose Insectifuge

(Continued from preceding page)

striking potentiality. When it is considered that Indalone can be combined with light-screening chemicals such as U.S.I.'s BK-5 these potentialities appear all the greater.



Indalone is the product of reacting mesityl oxide and dibutyl oxalate and has the structure shown here.

Ethyl Carbonate

(Continued from preceding page)

3. With *p*-chloro-biphenyl, it gives tri-biphenyl carbinol.

Miscellaneous Reactions

1. Sodium or sodium ethoxide forms sodium ethyl carbonate.
2. Ammonia gives urethan and urea.
3. Primary and secondary amines give the corresponding substituted ureas.
4. Hydrazine gives ethyl carbazate (ethyl hydrazinecarboxylate) and carbohydrazide (sym. diaminourea).
5. Biguanide in boiling ethanol gives ammeline (2-hydroxy-4, 6-diamino-1, 3, 5-triazine).
6. The Grignard reagent, RMgX, gives the ester of the next higher acid, $RCOOC_2H_5$.

Method for Purifying Organic Phosphates

A German patent now vested in the Alien Property Custodian covers a process for eliminating asphaltic impurities from phosphoric esters used in the extraction of phenols from aqueous liquors. The esters are selected from the group consisting of triaryl phosphates and trialkyl phosphates.

The process comprises treating the phosphates simultaneously with two agents, one a low-molecular aliphatic alcohol, the other consisting of low-molecular saturated aliphatic hydrocarbons. The latter agent, together with the materials dissolved therein, is separated and the acid esters recovered by distillation.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

A simple, new viscosimeter, designed to help standardize paint and other finish consistencies, permits inexperienced workers to take readings right on the job. Maker reports measurements can be made in 30 seconds. **(No. 780)**

U S I

Synthetic sponge rubber, which can be molded into slabs, cord and other shapes, is offered for sale in soft, medium and firm consistencies. **(No. 781)**

U S I

Cleaning metal surfaces is said to be faster, more thorough and conducive to better bonding of electro-deposits and organic finishes with a new emulsion-type cleaner. The product is designed to remove oil, grease and solid dirt without attacking even the more active metals such as aluminum and brass. **(No. 782)**

U S I

Sealing pipe joints against pressures up to 6000 pounds and temperatures up to 600 deg. F. is said to be facilitated with a new, insoluble, plastic lead seal recommended for oil, water, and steam lines. **(No. 783)**

U S I

Ursolic acid, according to a recent report, is being refined from cranberries on a pilot plant scale. A white, flaky, resinous product, this acid is said to be soluble in alcohol and benzene, to possess therapeutic qualities, and may be useful as an emulsifying agent. **(No. 784)**

U S I

A new synthetic detergent, available as a dry powder in various strengths, is said to have a wide range of uses in cleaners, textile specialties, bubble baths and hard water soaps. **(No. 785)**

U S I

Corrosion proofing of metal is accomplished by a new line of inorganic coatings which can be applied by spray or dip. The maker claims high resistance to acids, solvents, abrasion, and heat. Supplied in 5 basic colors, or shades to specifications. **(No. 786)**

U S I

Stepless pump volume control is being offered on a line of pumps for high-pressure and other chemical plant services. The control utilizes electronic tubes to convert a-c power to d-c and provides finger-touch regulation of pump motor speed from 10% to maximum. The control can also be actuated by flow meters, temperature controls or other instruments. **(No. 787)**

U S I

A molasses replacement for use as a binder in foundry work, briquetting, thickening agents, and similar applications is available in quantity without allocation limitation. Product is reported to be useful also as an extender in hog and dairy feeds. **(No. 788)**

U S I

Hand protection for workers exposed to solvents, cutting oils, and many other materials is said to be afforded by a new liquid preparation which dries to a visible, durable, elastic coating. The maker claims the coating will last a full shift, and will wash off with soap and water. **(No. 789)**

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Completely Denatured—all regular and anhydrous formulas
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®Solox Proprietary Solvent
®ANSOLS
Ansol M
Ansol PR

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Amyl Acetate
Butyl Acetate
Ethyl Acetate
OXALIC ESTERS
Dibutyl Oxalate
Diethyl Oxalate
PHTHALIC ESTERS
Diamyl Phthalate
Dibutyl Phthalate
Diethyl Phthalate
OTHER ESTERS
®Diatol
Diethyl Carbonate
Ethyl Chloroformate
Ethyl Formate

INTERMEDIATES
Acetoacetanilide
Acetoacet-ortho-anisidide
Acetoacet-ortho-chloranilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloranilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate
ETHERS
Ethyl Ether
Ethyl Ether Absolute—A.C.S.
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Synthetic

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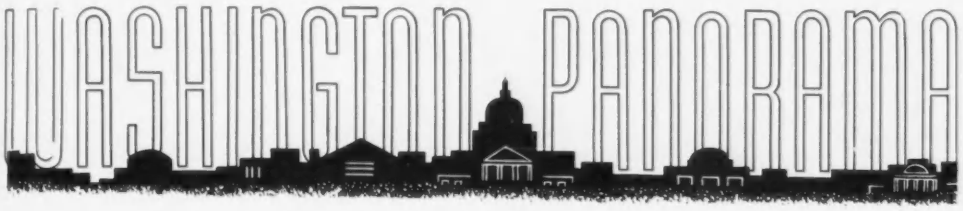

by ARNOLD KRUCKMAN

AT THIS writing, February 1, glycerine continues easy. WFA announced late in January industrial fats and oils would be allocated in February on the same basis as in January. Deliveries of fatty acids are now free of control up to 3,000 pounds per month, providing inventories do not exceed that quantity. Over that amount inventories must be held to a 60-day supply based on the quantity used the *last* half of 1943.

Department of Agriculture forecasts that supplies of fats and oils during 1944 will be upwards of one billion pounds more plentiful than they were in 1943. If you suffer hardship in the use of fats and oils, the War Food Administration, Director of Food Distribution, invites you to tell him about it and he will determine what may be done about it.

PERSONNEL CHANGES

Lee Marshall, formerly Director of Materials and Facilities in WFA, has been appointed Director of Food Distribution in place of Roy F. Hendrickson, who has become Deputy Director of UNRRA. Mr. Marshall, who had returned to his job as chairman of the board of the Continental Baking Company, first came into the war picture as Food Consultant to Donald Nelson in WPB. He comes back into the WFA at a critical time. Administrator Marvin Jones, head of WFA, is also chairman of the Combined Food Boards, and is considered as the most powerful influence in the present tangled situation involving FEA, State Department and WFA.

The State Department and FEA have not yet clarified the policies which govern relations between the United States and other nations in regard to trade with liberated areas. The State Department holds that international trade should be based on tariffs, quotas, exchange controls and barter systems brought down to reasonable bounds. The State Department rests its program on trade agreements, while the FEA group believes international cooperative planning should promote export and import trade after the war.

Meanwhile, there are constant shifts in the personnel of either agency. Sidney H. Scheuer recently was appointed executive director of FEA Bureau of Supplies. He succeeds Bernhard Knollenberg as the top man in Mr. Crowley's organization. Mr. Knollenberg returns to Yale University as librarian. Herbert W. Parisius has been appointed director of the Foods and Agricultural Branch of FEA. When the agency finally settles down to its appointed task, Mr. Parisius will control the machinery that will supervise the importation of the materials required by the cosmetic, toiletries and flavors industries. He comes from the liberal group identified with the University of Wisconsin, and has been connected with the Agricultural Adjustment Administration, one of the organized elements in the Department of Agriculture which reflected the ideas of Vice-President Wallace.

PEPPERMINT OIL SITUATION

The peppermint oil situation presently appears to be at a stalemate. Transactions at various levels seem stymied by the refusal of growers to sell at prevailing ceiling prices. OPA has not moved in the premises, and it is considered likely that the price ceiling problem may be dumped into the lap of the Administrator of the Peppermint Order, A. L. Kalish. Being a food, peppermint oil can be construed to come within the purview of WFA under its duty to set basic food-material prices. With the very considerable stocks now frozen in various parts of the country it is logical that WFA will move with deliberation in fixing prices. You can get the key to any action that has been taken and that may occur in the future by remembering the chief object of the Administrator of the Peppermint Order is to protect particularly the welfare of the little fellow. The Brazilians seem to have caused additional confusion by quoting $26.50 per kilo for menthol which is a cut from the earlier quotation of $29.50. This price for export—their domestic price is $17.00 per kilo — seems confirmed by the American Ambassador. The menthol is reported here to be of "unimpeachable quality, and has met the U. S. P. test." It also is reported that thus far the Brazilian effort to produce bergamot, shut off by the war in Sicily, has not been very successful. *Diario Official* of Dec. 11, 1943, received in governmental circles here from Mexico City, reveals that a Mexican essential oil house has been given a tax exemption for five years on any production of peppermint oil and menthol. The Order became effective an January 11, and production must begin by April 11. Apparently an ambitious program of growing peppermint is planned in many parts of the country. The word here also is that this year's users will practically have to do without narcissus, jasmine, Jugoslav oakmoss, Bulgarian rose, jonquil, lavender, hyacinth, orris root, lavadin, bergamot and other essential floral oils. It is reported terpineol has been produced commercially for perfume. The report that probably causes more undiluted swearing around Washington is the word that American soldiers in North Africa are innocently lead into paying $10 to $15 per bottle for perfume we can buy in this country for a dollar or thereabouts.

Department of Agriculture reports Chile exported to us $18,000 worth of *quillay*—soapbark—used for frothing non-alcoholic beverages in peace time and now used for cleaning lenses and precision instruments. The bark is taken from 100,000 trees in the mountains and baled for shipment. Considerable expansion in the production is anticipated.

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War Check List for Jan.—Government Regulations

Digest of Federal rules and regulations on price control, allocations and other regulatory measures of cosmetic, soap and flavoring industries issued or proposed during the past month

Collapsible tube order—M-115 amended

Under the new amendment to the Conservation order, M-115, covering collapsible tubes, the schedule of packing quotas has been revised. The following is that part pertaining to the cosmetic industry:

Under Schedule III, dental cleansing preparations are allowed a packing quota of 75 per cent of the product by weight packed in 1941, packed in aluminum or lead and tin—tin content of tubes not to exceed three per cent by weight.

Under Schedule IV, any product, such as shaving cream, etc., has an unlimited packing quota for packing in lead—containing not more than .5 per cent tin as an impurity derived from secondary sources.

The tube for tube exchange provision is continued in the order but will terminate on March 1, 1944. However, tubes in the hands of retailers and wholesalers on that date must be forwarded to the tin salvage institute. Other provisions remain the same.

Order M-81 as amended Jan. 3—Interpretation 1

With respect to Conservation Order M-81 the following is an official interpretation: (a) Several items in the schedules require that the quantity of product packed in glass during 1944 must be deducted from quantity of the product permitted to be packed in cans. To compute the quantity permitted to be packed in cans, first determine the area of plate (base boxes) in packing quota; second, using largest listed size allowed for the product as a basis convert to quantity—gallonage or pounds—of product which may be packed; third, deduct quantity—gallonage or pounds—of product packed in glass containers; and fourth, convert remainder—gallonage or pounds—of product to area of plate (base boxes) based on largest listed size used in step (2). The remaining area of plate (base boxes) resulting from step (4) represents the balance of metal quota which may be used for packing the product in cans of sizes permitted for that product.

L-317—shipping container order to be revised

L-317 has not been issued in its revised form, but it is expected that February 15th will be the approximate date when the cosmetic and allied industries will learn to what extent their shipping containers quota will be restricted.

The order as it now stands gives cosmetics and perfumes 65 per cent of the shipping containers they used in the corresponding quarter of 1942, computed on a footage or tonnage basis, whichever is lower. The contemplated cuts, whatever their effect upon the cosmetic industry, are presumed to equalize or make more logical the distinctions between various products. For example, dentifrices at present get 80 per cent and animal proprietary remedies get 65 per cent as compared to 80 per cent for animal and pet foods, and beverages. But whatever the changes are the chief object is to save paper. Thus it would seem advisable to base future packaging estimates on the number of shipping containers available rather than on the number of more plentiful package components.

Also many complaints have been rampant that some high priority orders are not being filled promptly by the shipping container manufacturers. This has led WPB officials to believe that a cut *is* necessary. The industry at the present time is very much up in the air as to just what the figures will be: some believing that the cut will be as much as an additional 25 per cent and the more optimistic hoping that the restrictions will remain as at present. In fact this latter is gaining more prestige as it is now believed that more items outside the cosmetic industry will be added to the list of restricted items rather than increasing the restrictions on the present items included in the original order. Rumor has it that even some food products are going to be added to the list and thus limited in the amount of containers they may use.

Rating order P-140 to be rewritten as new order P-146

In connection with L-317, WPB is working on a new order, P-146, to replace order P-140, the rating order which gives civilian drugs, pharmaceutical and biological preparations an AA3 rating for the procurement of shipping containers and parts, and an AA4 rating for a list of chemicals. The purpose of this revision is to give the product the same rating for boxes that it receives for other supplies.

The rating pattern consisting of lists under the usual priority numbers AA1 to AA5, with individual items grouped according to their essentiality, will correspond to that in P-140. Thus if an item, such as drugs and pharmaceuticals, is rated AA3 for shipping containers, it would be in the AA3 list for folding cartons and set-up boxes. This, you can see, might effect a very serious curtailment of said boxes available for unlisted items, such as cosmetics.

If this order should omit cosmetics from rating, the result would be that the supplier would not wish to take the risk of asking for more board for non-rated end uses, and moreover if he did ask for additional board, the supplier of board probably would not get sufficient pulp if he reported an undue proportion of non-rated end usage.

Product and container supply to be coordinated

The original idea aside from the save paper program was to make the shipping container quotas and the glass container and cap quotas, and in some cases metal container quotas, to dovetail each other as a unified packaging program, but this has been found to be impossible as apparently there is not sufficient paper to follow through on the box end.

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L-103-b issued Jan. 4 clarified

Supplementary Order L-103-b as of Jan. 27, 1944, has had added to it certain minor clarifications and other amendments. The effective date of the restriction against using a new glass container or new metal closure for packing a product not listed in the schedules of the order has been deferred until March 1, 1944.

A new paragraph relative to export deliveries prohibits any person from delivering more empty new glass containers or more new metal closures to any person outside the United States than he delivered to that person during the year 1943.

Also Schedule No. 4 pertaining to cosmetics and toiletries has been clarified by amending the working of the restriction covering closures. No change in the percentages is involved but the new wording in the case of semi-solid cosmetics is "85 per cent quota glass containers," and in the case of fluid or powder cosmetics the toiletries, the wording is "50 per cent quota glass containers."

Animal Oil Order 53 further amended

Food Distribution Order 53, covering the use and distribution of animal oil, neat's-foot oil and red oil has been amended to extend the suspension previously expiring January 31st through March 31st, 1944.

MPR 36 and MPR 37 amended in regard to cost computation

Both the orders MPR 36, Am. 5 covering butyl alcohol, and MPR 37, Am. 13, covering acetone have been amended relative to certain methods of computing costs, differentials, etc.

Cellulose acetate to be allocated

Cellulose acetate for molded lipstick-holders, it is the opinion of Washington officials, will be allocated on the basis of 100,000 to 200,000 lbs. per month, but made with not more than 10 per cent of phthalate plasticizer.

Steel for lipstick holders difficult to work

Although the report is circulated in Washington the WPB has released prime steel on appeal for the manufacture of lipstick holders, there is considerable difficulty in making use of this product for this purpose. The majority of holders have in the past been made of brass, and thus the carbon steel is not so easily workable. New tools are needed to effect this change over. Also the steel is only available to those who are not located in critical areas. Even if in a non-critical area skilled labor is needed for this work and WPB will probably assign this labor to essential industries. Thus this situation which on the surface sounds a happy note is upon full investigation tied up with the manpower shortage. However, we have heard of small amounts delivered and used.

Order M-30 covering ethyl alcohol amended

Allocation order M-30 has been amended. Most of the amendments are simply clarifications, but the small order provision has been changed. In order to qualify for the exemption, persons must have held a permit during the period from July 1, 1942, to June 30, 1943, and must have purchased ethyl alcohol in quantities averaging not more than 162 gallons per calendar quarter during that period.

Form FDA-695 for use in applying for fats and oils

Beginning February, industrial users of rationed fats and oils, such as lard, soybean, etc., must apply to WFA for ration certificates on printed form FDA-695 instead of by letter.

Suspension of allocation orders on various products

The WFA has suspended until June 30, 1944, the allocation of cashew nut shell liquid. Suspension was effected by amendment to FDO-36.

Restrictions on the use and delivery of oiticica oil has been suspended until June 30, 1944, because of the favorable prospects for the Brazilian oiticica nut crop. This suspension was effected under Amendment 1 to FDO-31.

Because it is expected that government requirements in linseed oil now can be purchased in the open market, the Food Distribution Administration has terminated FDO-56 requiring flaxseed crushers to set aside 25 per cent of their production on option to FDA.

Special hardship appeals for fats and oils to be considered

War Food Administration will consider appeals from users of fats and oils who are confronted with exceptional or unreasonable hardship because of uneven operations under quotas prescribed on a calendar quarter basis in various food distribution orders.

Food Distribution Orders Nos. 34 for glycerine; 42 general; 60 for fish oil, and 63 for linseed delivery are involved.

The purpose of the relief is to permit such users to equalize their quarterly production so as to avoid a manpower problem which might arise if they had to curtail employment during calendar quarters of small production and find additional labor during periods of larger production. Appeals should be addressed to the Director of FDA.

FDO-29 limits use of fatty acids derived from edible oils

An amendment to FDO-29 has extended the prohibitions on the use of cottonseed, peanut, soybean and corn oils to cover all fatty acids made from these oils. However, the prohibited uses do not apply to fatty acids made from by-products of processing permitted by the order, except in the case of fatty acids made from stearine. This amendment became effective January 18, 1944.

Miscellaneous items pertaining to the industry

Over 600,000 honey industrialists are represented on the OPA Honey Industry Advisory Committee. Talc producers may apply to OPA for increased ceilings. Zinc oxide has been placed under allocation, cosmetics being one of the 26 permitted uses. Deliveries of two tons or less per month are exempt. Sesame oil, placed under rationing by OPA, may be obtained by industrial users in greater quantities by applying to their local rationing boards. General Imports Order M-63, which covers all materials imported for the essential oil cosmetics, toiletries and flavor industries, was amended in January. Copy of the Order may be obtained from any local WPB office.

Alcohol situation growing tighter

According to a recent statement by Donald Nelson that all of the nation's alcohol production facilities will be required for military and essential civilian needs during 1944, there seems to be little hope for any increase in quotas to the cosmetic industry which at present is 50 per cent of fiscal year beginning July, 1940, and ending June 30, 1941; oral antiseptics and mouthwashes, 60 per cent of rubbing alcohol, 15 per cent. Washington sources believe that this means that the present allotment will hold, but that there is little hope for any additional.

To substantiate the statement of the tightness of alcohol, Mr. Nelson stated that alcohol had become tighter as a result of the operations of the synthetic rubber program, and that as long as this program needs all-out production from plants which make butadiene from alcohol, there will be no easement

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Slumber and the cool and
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Trade Jottings for Month of January

ARROW MANUFACTURING CO., INC., Hoboken, N. J., manufacturers of decorative boxes and displays, will award $25 War Bonds for actual letters from servicemen accepted for publication in a new trade advertising campaign to be launched soon, according to an announcement by Milton Weill, president. Each advertisement will spotlight a letter which illustrates, by comment or incident, the growth of mutual understanding and the spirit of cooperation among servicemen of all religious, racial, sectional and social backgrounds, who are now learning to judge their fellows by true values.

BARBARA GOULD'S latest promotion is concentrated on its Velvet of Roses Dry Skin Cream. This cream, a rich emollient, makes the skin appear more supple and pliant and gives it a look of freshness. The cream is tinted a delicate pink shade and possesses a faint scent of Attar of Rose.

KOPAL, the dental cosmetic, made its debut at the 19th Annual Greater New York Dental Meeting, December 6-10, at the Hotel Pennsylvania, New York, N. Y. The product was garbed in the traditional blue and white and was effectively displayed against an attractive setting of the same colors.

PRINCE MATCHABELLI, INC. has announced the election of Miss Jean Coxe to the office of vice-president of the company. Miss Coxe has been with the company for more than seven years and has won this promotion through her constructive and hard work covering this period. Our congratulations to her in her new office.

PARFAIT POWDER PUFF CO., INC., Chicago, Ill., has appointed the George H. Eberhard Co., of San Francisco and Los Angeles, Calif., as its Pacific Coast sales agents.

THE PUBLICITY CLUB OF NEW YORK held a luncheon meeting at the Belmont-Plaza Hotel, New York, N. Y., Jan. 20, at which time Dr. Otto L. Bettmann, director of the Bettmann Archive, spoke on how publicity began and the origins of present day promotional activities. Following Dr. Bettmann's address, Robert W. Sparks, vice-president of the Bowery Savings Bank, New York, offered suggestions for cooperation in the Fourth War Loan Drive.

MARY DUNHILL has been awarded the Toilet Requisites Award given by Beauty Fashion for the most outstanding packages of the year. Escape, the Shell series, and the Personalized Cologne are the three given special mention.

Application of Kopal to a variety of professional uses, theme of dentist's display.

Radio Announcements

THE CENTAUR COMPANY, manufacturers of Z. B. T. Baby Powder, has renewed its sponsorship of "Molle Mystery Theatre" broadcast on a 55-station network of the National Broadcasting Company.

COLGATE-PALMOLIVE-PEET CO. has signed a new contract for sponsorship of spot announcements for Super Suds on "Two Minute Man" heard over WEAF, National Broadcasting Company. The firm will also sponsor one-minute announcements on the same program for Palmolive Soap.

E. FOUGERA & CO., New York, N. Y., has renewed and increased its advertising campaign for Ramsdell's Sulphur Cream on the "Arthur Godfrey" program of Columbia Broadcasting System.

LADY ESTHER, LTD., Chicago, Ill., has announced the renewal of its full Columbia Broadcasting System network program "Screen Guild Players," heard also on CBS stations in Montreal and Toronto, Canada. Lady Esther made its debut as a Columbia advertiser in 1933. Its current campaign on CBS is for its face powder, face cream, rouge, lipstick and nail polish.

LEVER BROTHERS, 51, Cambridge, Mass., has announced the addition of seven stations to the network of its Columbia Broadcasting System "Big Sister" program. This brings the total number of CBS stations carrying the daytime serial to 80. In addition the program is heard over 30 stations of the Canadian Broadcasting Corp. It has also renewed its "Bob Burns, the Arkansas Traveller" program for 52 weeks for Lifebuoy Soap. The show is broadcast over a 74-station National Broadcasting Company network.

OWENS-ILLINOIS GLASS CO., Toledo, Ohio, sponsors of "Broadway Matinee," a 25-minute afternoon program broadcast on the entire Columbia Broadcasting System has announced that the show has passed in listenership, as measured by accepting polling agencies, many daytime shows of long standing.

10th Anniversary banquet of the Vanguard Laboratories, Imperial Hotel, Portland, Ore.

be launched in New York City by Bonwit Teller, B. Altman and Lord & Taylor, all of New York City.

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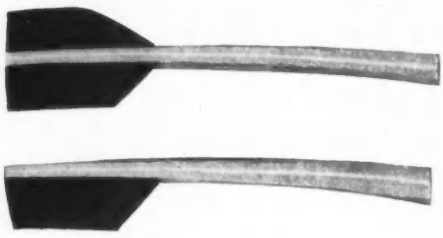

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Wood powder sachet filler

A new sachet filler made of fine ground wood powder of neutral color, as well as of fine ground aromatic red cedar powder is offered by the National Sawdust Co., 69 North Sixth St., Brooklyn, N. Y., to manufacturers interested in offering sachets. The powder is said to be highly absorbent, retaining the impregnated odor for longer periods than bases of other materials which heretofore have been used. According to the company, the new wood powder is being successfully used in the cosmetic industry by a number of concerns which have met with much success in producing sachets. No priorities are required and prompt shipments are promised. The company offers to send samples to anyone interested.

Box fastener

A box comprising an outer lap with tucks hinged along the free edge thereof a flap hinged to the edge of a wall of said box along a line which said free edge overlies when the box is closed is the subject of a *U. S. Patent* 2,331,754 of Oct. 12, issued to F. H. N. Wohlers and assigned to Hinde & Dauch Paper Co., Sandusky, Ohio.

Packaging machine

A packaging apparatus comprising means for advancing a carton intermittently step by step through an article receiving zone is the subject of *U. S. Patent* 2,331,081, of W. J. Fedorchak, J. R. Johnson and A. S. Wood, and assigned to the Owen-Illinois Glass Co. of Ohio.

Continuous band filing

The DoALL Continuous band filing machine, made by Continental Machines, Inc., Minneapolis 4, Minnesota, supersedes outmoded hand filing and reciprocal machine filing operations through proven tests, the company claims, indicating that continuous file broaching operations are many times faster than former methods.

New metal plating

The new process of metal plating on plastics, glass, etc., is being developed by Electro Plastic Processes, Chicago 54, Ill. The operation by this process has been in progress for several months. By this process, stronger unity of bond between the metal and plastic is obtained. It withstands impact, vibration and extreme temperatures without peeling or blistering, to the limits of the dielectric itself, which is greatly strengthened by the plating.

Collapsible container

A collapsible box from a single blank of pliable material having right-angled fold lines formed therein and defining a rectangular bottom, sides and end walls of the box is the subject of *U. S. Patent* 2,331,582 of Oct. 12, taken out by G. A. Trost and assigned to Fleishhacker Paper Box Co., San Francisco, Calif.

Automatic filling machine

A filling machine designed for dry products, with a special automatic two-way conveyor which returns the filled container to the operator, has been developed by the Triangle Package Machinery Company, Chicago, Ill.

It is ideally suited for production setups where it is desirable for the intake of empty and the delivery of filled containers to be at the same point. This permits one operator to handle the entire operation, the company states.

The filler is built in a range of sizes capable of handling from one oz. to 24 oz. containers. Any one model will handle a maximum of approximately one and one-half times the minimum. Production speed is from 40 to 60 containers per minute.

Another feature of the new filling machine is a no-container, no-fill control, which automatically prevents discharge when the supply of containers is exhausted.

Side-entering agitator

A new side-entering agitator which can be repacked from the outside without draining the tank and without loss of liquid, has been introduced by H. K. Porter Co., Inc.

The outside repacking can be done in five minutes. This is accomplished by using an external packing gland, while a seal attached to the shaft inside the tank may be drawn into a seat, hermetically sealing off the contents of the tank and permitting repacking with the tank full and no loss of liquid.

All thrust is taken off the motor bearings by means of roller bearings operating against a ring attached to the shaft. The new unit is also completely weatherproofed with all moving parts protected from the elements, so that it can be installed outdoors with entire assurance. Motor base and cowl are integrally mounted to agitator.

Packaged fire hose

As a precaution against tampering with fire extinguishers in defense plants and possible sabotage, J. Fredriksen, Fredricksen Service Co., Chicago, has designed a safety seal envelope for fire extinguisher hose. Envelope has die-cut ring at top for attaching to extinguisher. Standard wire seal is fastened around neck of envelope and projecting part of extinguisher. Broken seal immediately would uncover tampering. Plugging or otherwise damaging hose or nozzle is prevented by stitching as well as gluing bottom and side seams of envelope. Front of envelope has printed charts, convenient for re-charge and inspection records.

"Lightnin" mixer

A sturdy all around mixer to handle all types of laboratory mixer jobs has been introduced by the Mixing Equipment Co. Speed of the mixer is adjustable by means of a friction drive. It may be used on heavy ring stand or clamped on a large jar. It is designed with a convenient handle for carrying or for holding while mixing. The motor is totally enclosed so that it can be used for inflammable materials. The mixer weighs 10 pounds and is not to be confused with flea-power midgets.

Announcements

Dodge & Olcott Company

Dodge & Olcott Company, 180 Varick St., New York 14, N. Y., has just issued its January, 1944, wholesale price list.

The list includes essential oils, flavors, oleo resins, vanilla, aromatic chemicals and kindred products for the drug, food, confectionery, perfumery and soap industries, as well as basic insecticide materials for the household and agricultural insecticide industries.

Schimmel & Co., Inc.

Schimmel & Co., Inc., 601 West 26th Street, New York, N. Y., has issued its Price List X. The list comprises essential oils, aromatic chemicals, oleoresins and concentrates, resinoids and extrols. Other price lists including perfume compounds and specialties, and flavoring specialties may be had upon request.

Merck & Co., Inc., Ind. Div.

Merck & Co., Inc., Rahway, N. J., has issued its January, 1944, Price List. This price list is a complete compilation of the industrial chemicals produced by the company.

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Raw Materials
Essential Oils

for

Perfumery •

Cosmetics •

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TEN MINUTES AND TEN YEARS

That's how long it takes to turn out a Kelton lipstick. Ten minutes time and ten years devoted to developing the finest possible cosmetics with painstaking attention to details of compounding, finishing, packaging and shipping.

Every Kelton product is subject to the same exacting scrutiny, which accounts for the fact that many of America's leading brands use Kelton as their dependable source of supply.

At this time, we are privileged to serve the U. S. Armed Forces and Defense Plants with special preparations.

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Lipstick · Eyeshadow · Rouge · Mascara · Powder

Many years ago we first offered fine paper boxes to cosmetic manufacturers. It is significant that since then most of the concerns with whom we began business still call upon us to meet their needs.

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Despite the shortage of raw materials it is our pledge never to depart from the high standard of quality that has always been identified with KARL VOSS paper boxes.

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There is no finer cosmetic container than a KARL VOSS box.

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KARL VOSS CORPORATION
DIVISION OF SHOUP-OWENS INC.
HOBOKEN NEW JERSEY

NEWS and EVENTS

U. S. Essential Oil Ass'n elects new officers at annual meeting

More than 100 representatives of the essential oil industry held their annual meeting at the Hotel Pennsylvania, New York, N. Y., January 14th.

J. H. Montgomery

Mr. V. H. Fischer, vice-president of Dodge & Olcott Co., and president of the association, delivered the president's report, and R. B. Magnus, vice-president of Magnus, Mabee & Reynard, delivered the treasurer's report.

The following officers were elected for the coming year:

John H. Montgomery — President
Fritzsche Brothers, Inc.
William Schilling, Jr. — Vice-president
Norda Essential Oil & Chemical Co.
Robert B. Magnus — Secretary-Treasurer
Magnus, Mabee & Reynard, Inc.

Executive Committee

Frederick G. Buehler
George Lueders & Co., Inc.
Mr. V. H. Fischer
Dodge & Olcott Co.

In his report to the association, President Fischer reviewed the progress of the group during 1943 in its discussions of questions pertinent to the industry, the innovation of the *Essential Oil News Capsule* and the constant additions to the book of Trade Mark Names and Coined Names, issued originally in 1942.

In closing, Mr. Fischer said, "As we look forward to the year 1944 with the prediction of victory at least in Europe . . . I can see a year of much uncertainty and difficulties. The victory will not dissolve our problems. It may add to them. Many government bureaus will be very reluctant to release their grip on business and for this reason alone it will be more important than ever for us as a group to work in close harmony and cooperation."

Following the treasurer's report, Dr. Eric C. Kunz, chairman of the Scientific Committee of the association, reviewed the activities of the committee during the past year. His report, in part, follows:

"The Scientific Committee has prepared a monograph on cinnamic aldehyde . . . and after considerable debate, the cinnamic aldehyde monograph has now been accepted.

"The question of menthol from American peppermint oil was studied. . . . Other essential oils and aromatic chemicals studied were oil of juniper berries, oil of orange, oil of nutmeg, oleo resin, ginger, oil of wormseed, benzaldehyde and a method of determining the linalool content of bois de rose.

"The committee discussed the feasibility of standardizing essential oil specifications in order to avoid contamination at the source. . . . It is felt by all of us that the industry requires standard methods for testing all essential oils that are not in the U.S.P. and N.F. . . . In other words, the association should set up a book of standards for non-official essential oils, corresponding to the U.S.P. itself."

Plant cultivation conference held in California

A three-day conference on drug and essential oils plant cultivation was held at the California State Building, Los Angeles, the end of December under the auspices of a state department created since the war to foster this new industry.

It is probable, it was indicated, that the conference will become an annual event.

BIMS of New York hold annual dinner meeting

BIMS of New York held their annual dinner, Jan. 20, at the Hotel Lafayette, New York, N. Y., with an attendance limited to 175 members and guests. A number of members were unable to be accommodated at the last minute owing to war-time restrictions by the hotel. Martin Schultes, Hewitt Soap Co., New York BIMS chairman, presided, and there were no formal speeches. Four prizes consisting of $25 and $50 War Bonds were awarded as the result of a drawing by Charles Darr, of Harriet Hubbard Ayer. The prize winners were I. H. Bender, McKesson & Robbins, Inc.; F. C. Kaiser, Keller-Dorian Paper Co.; and H. B. Sliger, Commercial Solvents Corp., among the members, and E. F. Clement, J. C. Penney Co., a guest.

A. J. Connolly general manager of Helfrich Laboratories

Arthur J. Connolly, who assumed the position of general manager of Helfrich Laboratories of New York, Inc., February 14, has been associated with the toilet goods industry for 23 years, 17 years of which were spent with the Harold F. Ritchie organization where he developed a wide acquaintance and acquired an intimate knowledge of the industry and particularly the production and merchandising problems of manufacturers. His cooperation in the solution of these problems helped him to win many friends; and this experience promises to be most useful in fulfilling the responsibilities of his new position.

His popularity in the trade led to his successive election for 16 years as secretary-treasurer of the Foragers, the oldest association in the industry.

Like so many other men in the industry who have forged to the front he is fond of outdoor sports and is a baseball and football fan. He resides in New York City with his wife and 15-year-old daughter. A son of 21 years of age is in the armed services. His many friends throughout the industry will be glad to learn of his appointment as general manager of Helfrich Laboratories of New York and are confident that his characteristic energy, enterprise and progressive business methods will contribute to the development of the business.

Subsidiaries of Owens-Illinois become divisions of parent company

The Libbey Glass Co. of Toledo, Ohio, and the Owens-Illinois Pacific Coast Co., heretofore operated as wholly owned subsidiaries of Owens-Illinois Glass Co., became the Libbey Glass Division and the Pacific Coast Division of Owens-Illinois Glass Co., Jan. 1, 1944.

Under the revision Garland Lufkin, vice-president of the parent company,

Our aim is to offer quality and service in the creation and manufacture of your line of toilet preparations for current and post-war needs.

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is director of Packaging Research and Planning and is responsible for launching broader customer service.

With Vice-President Henry S. Wade, former president of the Owens-Illinois Pacific Coast Co., Mr. Lufkin will assist President Levis and R. H. Barnard, executive vice-president, in long-range planning.

Marie Pierson appointed stylist for Luxor, Ltd.

Marie Pierson, assistant buyer of the cosmetic and toilet goods section of Carson, Pirie, Scott & Co., Chicago, Ill., has resigned to become product and package fashion coordinator for Luxor, Ltd., Chicago toilet goods manufacturer.

Cosmetics, Inc., expands facilities 100 per cent

Cosmetics, Inc., has expanded its facilities by leasing an additional floor at its present address 30 E. 10th St., New York, N. Y. This represents a 100 per cent increase and will better enable the company to care for its growing volume of business. Under the direction of John LaMusse, general manager, and George H. P. Lewis, production manager, the company has shown marked progress.

Shulton, Inc., appoints new sales representatives

Lawrence G. Metcalf recently joined the sales force of Shulton, Inc., manufacturers of Early American Old Spice and Friendship's Garden toiletries and Leigh Perfumes. Mr. Metcalf of the new Boston office will represent Shulton in upper New York State.

Leslie Nicholson and Hugh Osborne were recently appointed sales representatives of the Los Angeles branch. Mr. Nicholson has been assigned to the territory in Arizona, Nevada and most of California while Mr. Osborne will cover Montana, Utah, Idaho, Washington and Oregon.

Felton Chemical Company opens branch office in Mexico City

Because of the increased and widespread demand for its products, and in order to be able to take prompt and better care of the needs of its many customers in Mexico, Felton Chemical Co., Inc., Brooklyn, N. Y., recently opened a branch in Mexico City. In charge of this office, as well as of their Mexican business in general, is J. Alvarado Lang, a chemical engineer of the National University of Mexico. Mr. Julien R. Fonte, of the Brooklyn home office, spent two months in Mexico supervising the opening of the new branch and taking care of the special requirements of some of the larger customers in that territory.

New officers elected by Prince Matchabelli

E. L. Mabry was elected chairman of the board of Prince Matchabelli, Inc., New York, N. Y., at a recent meeting of the board of directors. Other officers elected at this time were Norman Dahl, president; L. V. Talamini, executive vice-president, and Jean Coxe, vice-president.

J. E. Naylor named vice-president, secretary of Owens-Illinois Can Co.

James E. Naylor, attorney and manager of the legal department of Owens-Illinois Glass Co., has been elected a vice-president and secretary, as well as a director of Owens-Illinois Can Co., with general offices in Toledo, Ohio.

Mr. Naylor will take a very active part in the can company management and will direct all legal contractual and patent matters.

J. M. Marrone succeeds H. F. Lee in Board of Trade Section

The New York Board of Trade, Inc., has announced that Joseph M. Marrone, formerly with the U. S. Department of Commerce and the Inter-American Commercial Arbitration Commission, has been chosen secretary, Latin-American Section, to succeed Hal F. Lee, who resigned to enter the field of private business. Chairman of the Latin-American Section of the Board is John B. Glenn.

Drug, Chemical and Allied Trades to hold annual dinner March 9th

The 19th annual Drug, Chemical and Allied Trades banquet to be held under the auspices of New York Board of Trade, Inc., will take place on Thursday, March 9, 1944, at the Waldorf-Astoria Hotel, New York, N. Y., it was announced by Edward T. T. Williams, chairman of the Drug, Chemical and Allied Trades Section of the New York Board of Trade, following a recent meeting of the Section's executive committee.

Mr. Williams also announced the appointment of various dinner committees including Guy L. Marsters, Norwich Pharmacal Co., chairman of the reception committee; John J. Toohy, E. R. Squibb & Sons, chairman of the program committee; Robert B. Magnus, Magnus, Mabee & Reynard, Inc., chairman of the dinner arrangements committee; and William D. Barry, Mallinckrodt Chemical Works, chairman of publicity committee.

U. S. Flavoring Extract Mfrs. to hold annual meeting in May

The Flavoring Extract Manufacturers' Ass'n will hold its 35th annual meeting May 22 and 23, 1944, at the Hotel New Yorker, New York, N. Y. The cost of registration will be $15, which will include luncheon and dinner on both days.

Registration for the meeting is to be made with the Dill Co., Norristown, Pa., E. L. Brendlinger, secretary, has announced.

The nominating committee, appointed in advance of the meeting, includes Frank Dodge, chairman, Frank Green and Rhea Smith.

Standard Synthetics moves offices and laboratories

Standard Synthetics, Inc., has announced the removal of its office and laboratories to 30 West 26th Street, New York 10, N. Y. Previously ,in March 1942, the firm took over greatly increased space at 119 W. 25th Street to handle its increased American and South American business.

The company maintains a warehouse and office in Kansas City and other branches in Chicago, Boston, Philadelphia and St. Paul. It has agents in Cuba, Mexico and South America.

California Cosmetic Ass'n holds annual meeting in Los Angeles

The annual meeting of the California Cosmetic Ass'n was held at Lindy's Restaurant, Los Angeles, Calif., Jan. 21, President J. B. Nethercutt presiding. It was the first gathering of the organization for some time, the result of transportation difficulties, blackouts, etc. The attendance was very good.

The guest speaker was James Mussati, general manager of the California State Chamber of Commerce, who discussed "Post-War California."

Henry W. Miller, manager of the cosmetics department of the Brunswig Drug Company's (Los Angeles) manufacturing division, was elected president for the next year. Judge Smith, Smith Sales Builders, Inc., Hollywood, first vice-president; H. R. Schmidlapp, Shor Laboratories, Inc., Los Angeles, second vice-president; H. P. Willats, Colonial Dames Co., Hollywood, secretary; Chris Nelson, Nelson Laboratories, Hollywood, treasurer. Trustees: J. B. Nethercutt, retiring president; Sam Mitchell, Forty-Two Products, Inc., Los Angeles; William Nassour, retiring treasurer; Marro Herrera, Nourshine Co., Hollywood.

Mr. Miller, the new president, has been active in the affairs of the Association since he joined the Brunswig organization nine years ago.

PERFUMERS

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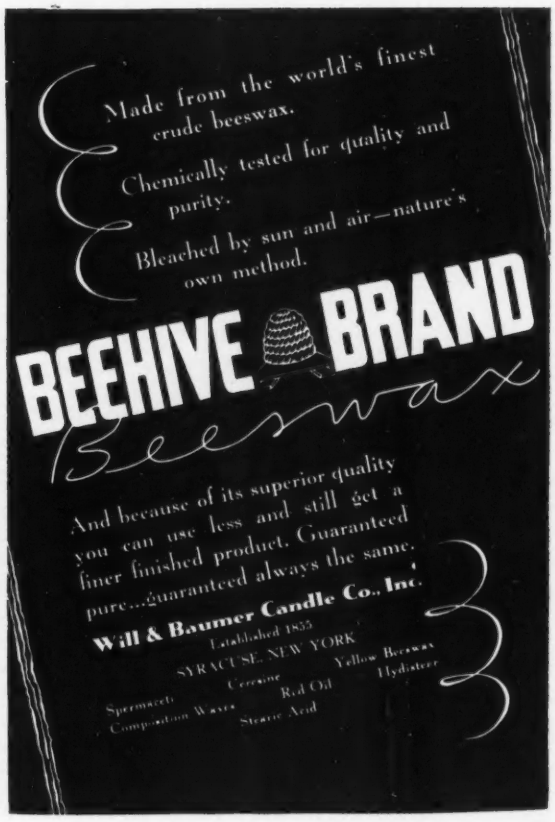
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Parfums Corday files articles of incorporation in California

Parfums Corday, Inc., a New York corporation with a capital of $100,000, has filed articles of incorporation in California. California agent is Nate W. Wilson, 1064 Wilton Place, Los Angeles, Calif.

G. T. Wruck appointed advertising director of Chicago chemical firm

George T. Wruck has been appointed director of advertising of the Consolidated Royal Chemical Corp., Chicago, Ill., according to James A. Hirschfield, president of the company. Mr. Wruck will coordinate and direct the promotion and merchandising of products sold by the firm, including Krank cosmetics and shaving preparations.

California F.E.M.A. holds monthly dinner meeting

The Flavoring Extract Manufacturers' Ass'n of California held their monthly dinner meeting Jan. 20, at the Los Angeles Athletic Club, Los Angeles, Calif., President Charles S. Marston, Jr., presiding. The meeting was devoted to committee reports and a round-table discussion of the report of Lane Guthrie, legislative committee chairman, who told of government orders affecting the industry at this time. Charles Myers, chairman of the nominating committee, reported the following nominations for office for 1944-45: president, Charles S. Marston, Jr.; vice-president, Albert E. Evans, M. E. Bear & Co.; secretary, Frank Fetsch, King's-X Manufacturing Co.; treasurer, Fred Dunn, Mefford Chemical Co. The by-laws provide, it was explained, that the treasurer shall be associated with the supply houses, the other officers with the manufacturers' division of the industry. One new member, L. H. Schenk, head of the Ben Hurr Products Company's flavor department, was elected to represent that company. The balance of the evening was occupied by the showing of a war film.

McKesson & Robbins lays plans for stable post-war era

Executives, merchandisers and special representatives of McKesson & Robbins, Inc., met recently at the Bridgeport, Conn., research laboratories and manufacturing plant, to review the firm's record-breaking achievements of 1944 and to formulate plans for post-war.

Nadair Parfums, new corporation, formed in Los Angeles

Nadair Parfums, Inc., has been organized in Los Angeles county, with a capital of $10,000. Directors are: Sidney Prager, of Beverly Hills, Calif.; Monroe B. Lukather, of Van Nuys, Calif.; and E. H. Southwell, of Los Angeles. The new corporation is represented by Henry C. Rohr, 650 South Spring street, Los Angeles, Calif.

Advertising clinic scheduled for May by drug industry

An advertising clinic will be conducted in New York on May 16 in conjunction with the 62nd annual convention of the Proprietary Ass'n of America, whose members are among the larger national advertisers in newspapers, radio and magazines.

In announcing the clinic, Dr. F. J. Cullen, executive vice-president of the association, said that presentations respecting the problems of drug advertising would be made by the Bureau of Advertising of the American Newspaper Publishers Ass'n, the Sales Managers Committee of the National Ass'n of Broadcasters, and by the Periodical Publishers Ass'n.

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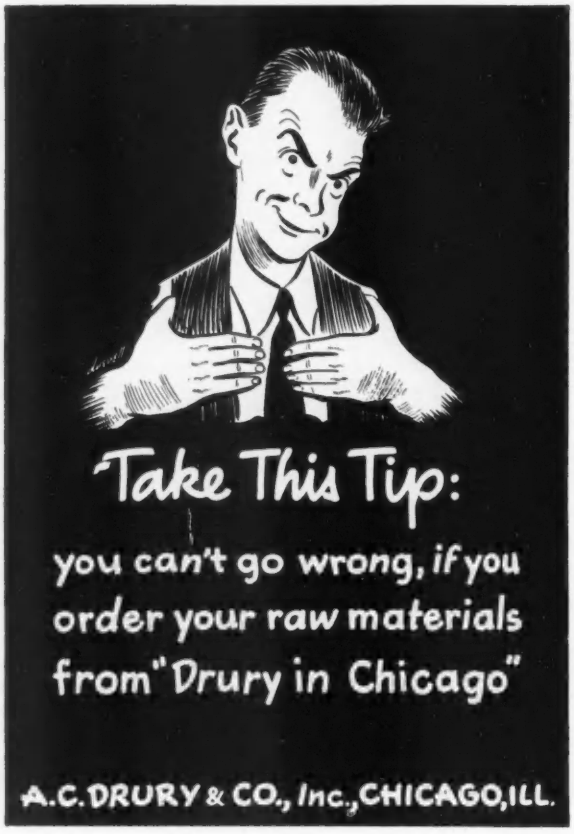

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9 East 38th St., New York 16, N. Y.

Colgate-Palmolive-Peet, Ltd., appoints R. A. Hart sales manager

Ralph A. Hart has been appointed sales manager of the Colgate-Palmolive-Peet Co., Ltd. Mr. Hart joined the company as a salesman 12 years ago. He was promoted to district sales manager for the province of Ontario and later spent four and one-half years as manager director of the company in India.

American Home Products shareholders approve stock increase

American Home Products Co., Jersey City, N. J., shareholders, in a special meeting at Wilmington, Del., approved an increase of the corporation's authorized capital shares from 1,000,000 of $1 par value to 1,500,000 shares of the same par value, Knox Ide, corporation president, announced recently.

Philip Elixson joins Shulton sales force

Philip Elixson, of the Dallas, Texas, branch of Shulton, Inc., New York, N. Y., manufactures of Early American Old Spice, Friendship's Garden and Leigh Perfumes, recently has been appointed a salesman. Mr. Elixson will cover the Northeastern territory

Obituaries

Joseph A. Crombie

Joseph A. Crombie, for more than 25 years plant manager of George Lueders & Co., New York, N. Y., died at his residence in Brooklyn, N. Y., Jan. 29, after a brief illness.

Mr. Crombie had been identified with the essential oil industry for practically his entire life. For many years he conducted a distilling business under the firm name of J. A. Crombie & Co. In 1916 his plant was taken over by George Lueders & Co., and thereafter he remained as manager.

Mr. Crombie was a member of the 25 Year Club of the company. He is survived by one son and two daughters.

William G. Kendall

William G. Kendall, of Maplewood, N. J., a veteran of the cosmetic trade, died Dec. 25, 1943. He is survived by a widow, a daughter and a son.

Well known to the industry, Mr. Kendall took out more than 100 patents in his lifetime, largely for compacts and lipstick holders. One of his patents, now expired, is still widely used in the manufacture of face powder compacts.

Mr. Kendall was first associated with the manufacture of Mary Garden products but later his ideas were used by a number of manufacturers in the cosmetic industry.

Leopold Hammel

Leopold Hammel, for the past ten years associated with the A'Cadia Powder Puff Co., Inc., New York, N. Y., died Jan. 17. He was past 81 years of age.

Prior to joining the A'Cadia Company, he was associated with several companies serving the toilet goods and cosmetic industry.

Frank C. Groover

Frank Clayton Groover, recently retired vice-president of the Groover-Stewart Division of McKesson & Robbins, Inc., at Jacksonville, Fla., died in that city Jan. 28, at the age of 83. He had been seriously ill for the past month.

At his death Mr. Groover was a director of the Barnett National Bank of Jacksonville, and an honorary vice-president of the Boy Scouts of America. From 1921 to 1922 he served as president of the National Wholesale Druggists' Ass'n.

Mr. Groover is survived by two sons, Allen, of Jacksonville, and Overton Groover, of New York, N. Y.

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PLYMOUTH Genuine Spermaceti U.S.P.

This Spermaceti should not be confused with inferior hydrogenated sperm oils which are sometimes offered as Spermaceti The Plymouth Brand is the finest which can be produced and is produced from Genuine Sperm Oil by the cold pressing method. It is a very white crystalline wax containing no free oil, has a very low Iodine number and is free of any offensive odors.

PLYMOUTH Ozokerites

We offer two grades One is the highest quality obtainable, 76°-78° C melting point and the other grade lower in price and of lower melting point 66°-68° C. Both are guaranteed 100% Pure Bleached Ozokerites.

PLYMOUTH Sun-bleached White Beeswax U. S. P.

This is guaranteed to be a 100% Pure Beeswax and sun-bleached It is refined by the centrifugal method which removes all and every trace of foreign matter: We will gladly send samples.

PLYMOUTH White Cirine Wax

A special grade of White Ceresin Wax prepared for the cosmetic trade Absolutely white and odorless. It has a melting point corresponding to that of Beeswax so that in using it in connection with Beeswax in cream any "lumpiness" is avoided. Its use will also produce a very glossy cream.

PLYMOUTH Paraffin Waxes

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BUSINESS OPPORTUNITY

WANTED: 2—Dry Powder Mixers; 2—Pony Mixers; 2—Tablet Machines; 1—Filter; 3—Kettles; 2—Filling Machines. No dealers. Write Box 2353, The American Perfumer and Essential Oil Review.

FOR SALE: Small job lot quality perfume, face powder in French bottles, boxes and sets. Suitable any label. Write Box 2461, The American Perfumer and Essential Oil Review.

TERMINATIONS?, CANCELLATIONS? We WILL BUY: Raw materials, finished products, bottles, jars, caps, machinery, equipment. Write Box 2464, The American Perfumer and Essential Oil Review.

WANTED: Powder Mixer and Sifter, capacity 500 lbs., with motor. Paste Mixer similar to Stokes Pony Mixer #32, 15 gallon capacity. Also 100 gallon glass lined tank with side agitator. Give all particulars first letter. World's Products Company, Spencer, Ind.

WANTED: One Lovibond Tintometer in good condition. Any Model. Write Box 2465, The American Perfumer and Essential Oil Review.

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CHEMIST: To take charge of manufacturing laboratory in small midwestern city. Must be capable of developing new products in cosmetic and drug field. Nationally known firm. Write Box 2462, The American Perfumer and Essential Oil Review.

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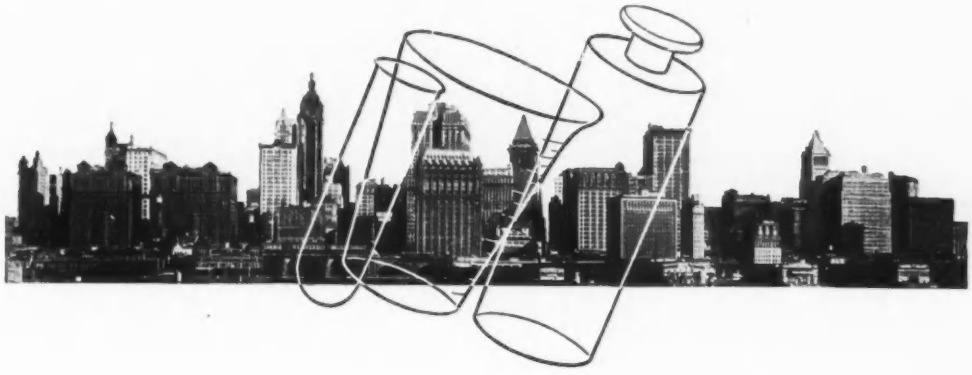

Importations a Factor in Market

THE FIRST MONTH of the new year failed to bring about many price movements in essential oils or aromatic chemicals. The trade generally was faced with the problem of obtaining sufficient supplies to take care of the requirements of regular consumers and reports from major suppliers indicated that general conditions are likely to grow worse before any relief can be expected.

Some trade factors are of the opinion that there are better prospects for lower priced aromatic chemicals than for essential oils. It was revealed, however, such opinions were based on the possibilities of greater releases of government stockpiles. If the general stockpile of such raw materials is too large, all consumers, including aromatic chemical manufacturers, might well receive increased allotments some time in the future.

SPECIFIC SITUATIONS

Glycerine is in freer supply than at any time since the war started but the situation with regard to lanolin has remained exceedingly tight. Alcohol continues to offer a serious problem, and certain other basic materials; namely, toluol and benzol, continue in urgent demand for materials of war with little left for civilian uses.

Contrary to reports in some directions, there has been no tightening in domestic essential oils since the recent meeting between representatives of the Office of Price Administration and local essential oil dealers. These oils have been scarce for many months. Unless drastic steps are taken conditions are likely to grow steadily worse. Too much government interference at a time when a severe labor shortage prevailed are the major reasons given for the unusual conditions that prevail in the full line of domestic oils.

CALIFORNIA LEMON ACTIVE

Among the citrus oils, California lemon was the most active, although seasonal influences are beginning to reflect in a better inquiry for lime. Some representatives of Brazilian shippers of orange were reported having difficulty in obtaining import licenses. Whether in view of an ample domestic supply of orange said difficulties will apply equally to North African and Italian oils remains a question.

SAFROL LOWER

Quotations on safrol have declined. The reduction was attributed to freer arrivals of Brazilian sassafras oil at more favorable costs. A firmer feeling has developed in lemon grass. According to reports the downward trend of prices over the final quarter of last year had been extended too far because of competitive conditions. Little or no bois de rose oil was available on spot, but arrivals may reach here from Brazil some time this month or early March against import licenses issued late in December.

GLYCERINE CONSUMPTION UP

Easing of restrictions on the use of glycerine had a greater influence on consumption in January than in December. This is explained by the fact that many consumers did not understand the modification of regulations sufficiently to request larger quantities in December. As a result of the increased consumption in January over December it is generally believed that a better balance between production and consumption will be witnessed over the remainder of the current quarter.

PRICE SPECULATION OF GUMS

Speculative influences carried gum arabic prices down to a level close to replacement costs, and as a result, the market developed a more sensitive tone toward the close of January. The slightest signs of buying interest caused prices to respond to higher levels only to fall back again in the face of fairly substantial stocks hanging over the market. Shortage of gelatin and certain other similar materials resulted in a broadened demand for powdered gum arabic. The finer qualities of U.S.P. material have been meeting with increased favor.

VANILLA BEANS FROM MADAGASCAR

In view of the substantial volume of business placed in Madagascar for vanilla beans, it is quite likely that through the cooperation of shippers on the Island and American interests, a steamer has already been chartered to carry the tonnage. In fact it would not be surprising to learn that the beans are already afloat. Based on reports purchases running over 75 tons were made. American buyers finally agreed to recognize price regulations set up in Madagascar by the French Colonial Government.

The outlook with regard to future supplies of Mexican beans is regarded as highly clouded since prices have been steadily advancing in Mexico without any real buying support on the part of American interests and at a time when the new crop will shortly be ready for the market. Local houses, it is explained, would be forced to operate under extremely difficult conditions if they were forced to meet the high shipping prices quoted in Mexico. Operators in Mexico are undoubtedly posted on conditions here and it is quite possible they had hoped American buyers would be forced to meet the higher prices in the face of shipping difficulties between here and Madagascar.

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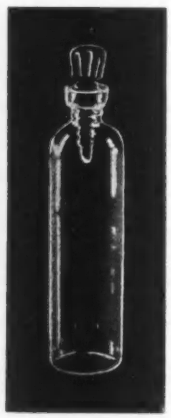

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S. P. A.	4.75@	5.10
Sweet True	2.25@	2.50
Apricot Kernel	.48@	.50
Amber, rectified	1.35	Nom'l
Angelica Root	125.00@	150.00
Anise, U. S. P.	3.85	Nom'l
Imitation	1.75@	2.10
Aspic (spike) Span.	4.10@	5.25
Avocado	.90@	.95
Bay	1.75@	2.50
Bergamot	25.00	Nom'l
Brazilian	10.00@	10.25
Artificial	4.00@	9.25
Birch, sweet	3.35@	5.25
Birchtar, crude	2.25	Nom'l
Birchtar, rectified	4.25	Nom'l
Bois de Rose	5.10	Nom'l
Cade, U. S. P.	1.50@	1.75
Cajeput	2.00@	2.75
Calamus	22.50@	35.00
Camphor, "white," dom.	.35@	.45
Cananga, Java, native	9.00@	11.00
Rectified	10.75@	12.00
Caraway	17.50	Nom'l
Cardamon	28.00@	32.00
Cassia, rectified, U. S. P.	12.00	Nom'l
Cedar leaf	1.25@	1.30
U. S. P.	2.00@	2.10
Cedar wood	.80@	.95
Celery	24.00@	26.00
Chamomile	150.00	Nom'l
Cinnamon	20.00@	35.00
Citronella, Ceylon	1.05@	1.25
Java	3.25	Nom'l
Cloves, Zanzibar	1.70@	1.85
Copaiba	.80@	.85
Coriander	30.00@	32.00
Imitation	10.00@	14.00
Croton	3.00@	3.75
Cubebs	5.25	Nom'l
Cumin	8.50@	10.00
Dillseed	7.00@	7.50
Erigeron	2.15@	2.50
Eucalyptus	1.55	Nom'l
Fennel, Sweet	3.25@	4.00
Geranium, Rose, Algerian	13.00@	15.00
Bourbon	16.00@	18.00
Turkish	5.50@	6.00
Ginger	22.00@	23.00
Guaiac (Wood)	4.50@	6.10
Hemlock	1.50	Nom'l
Substitute	.55@	.60
Juniper Berries	15.00	Nom'l
Juniper Wood, imitation	.75@	.80
Laurel	5.00	Nom'l
Lavandin	8.25	Nom'l
Lavender, French	10.00@	12.00
Lemon, Calif.	3.25@	
Lemongrass	1.20@	1.35
Limes, distilled	7.00@	7.75
Expressed	11.00@	11.75
Linaloe	3.75@	4.10
Lovage	95.00	Nom'l
Marjoram	7.00@	7.50
Neroli, Bigarde P.	300.00@	375.00
Petale, extra	300.00@	340.00
Olibanum	5.00@	5.75
Opopanax	22.00@	38.00
Orange, bitter	4.50@	5.00
Brazilian	1.25@	1.50
Calif., exp.	1.25@	1.50
Orris Root, abs. (oz.)	135.00@	
Artificial	36.00@	40.00
Pennyroyal, Amer.	3.25@	4.10
European	3.15@	4.10
Peppermint, natural	6.00	Nom'l
Redistilled	6.30	Nom'l
Petitgrain	1.60@	2.00
Pimento	5.25@	8.00
Pinus Sylvestris	4.25@	5.00
Pumillonis	4.25@	4.80
Rose, Bulgaria (oz.)	25.00@	32.00
Synthetic, lb.	45.00@	55.00
Rosemary, Spanish	2.00@	2.10
Sage	6.25@	7.50
Sage, Clary	40.00	Nom'l
Sandalwood, East India	6.25@	6.50
Sassafras, natural	2.00@	2.35
Artificial	1.50@	1.80
Snake root	10.00@	12.75
Spearmint	4.00	Nom'l
Thyme, red	2.60@	3.25
White	3.25@	5.00
Valerian	35.00	Nom'l
Vetivert, Java	45.00	Nom'l
Wintergreen	5.25@	8.50
Wormseed	5.25	Nom'l
Ylang Ylang, Manila	38.00	Nom'l
Bourbon type	18.00@	20.00

TERPENELESS OILS

Bay	2.75@	3.00
Bergamot	49.00	Nom'l
Grapefruit	65.00@	
Lavender	28.00	Nom'l
Lemon	40.00@	55.00
Lime, ex.	85.00@	100.00
Distilled	60.00@	67.00
Orange sweet	75.00@	125.00
Peppermint	11.50@	14.00
Petitgrain	3.50@	4.00
Spearmint	5.00@	6.00

DERIVATIVES AND CHEMICALS

Acetaldehyde 50%	1.90@	2.75
Acetophenone	1.60@	1.75
Alcohol C 8	7.50	Nom'l
C 9	13.25@	15.00
C 10	7.75@	12.00
C 11	11.50	Nom'l
C 12	7.20@	8.50
Aldehyde C 8	22.50@	28.00
C 9	32.00	Nom'l
C 10	22.00@	29.00
C 11	22.00	Nom'l
C 12	25.00@	30.00
C 14 (so called)	9.25@	9.75
C 16 (so called)	7.65@	8.25
Amyl Acetate	.50@	.75
Amyl Butyrate	.90@	1.10
Amyl Cinnamate	4.50@	5.80
Amyl Cinnamate Aldehyde	2.75@	5.00
Amyl Formate	1.00@	1.75
Amyl Phenyl Acetate	3.75@	4.00
Amyl Salicylate	.85@	1.00
Amyl Valerate	2.00@	2.75
Anethol	2.00@	2.25
Anisic Aldehyde	3.15@	4.00
Benzophenone	1.15@	1.30
Benzyl Acetate	.65@	1.00
Benzyl Alcohol	.75@	1.00
Benzyl Benzoate	1.10	Nom'l
Benzyl Butyrate	2.25@	3.00
Benzyl Cinnamate	5.15	Nom'l
Benzyl Formate	3.75	Nom'l
Benzyl-Iso-eugenol	10.25	Nom'l
Benzylidenacetone	2.25@	3.40
Borneol	1.80	Nom'l
Bornyl Acetate	2.00	Nom'l
Bromstyrol	5.00	Nom'l
Butyl Acetate	.11@	14½
Cinnamic Acid	3.75@	4.50
Cinnamic Alcohol	3.75@	4.00
Cinnamic Aldehyde	1.75	Nom'l
Cinnamyl Acetate	10.40@	12.00
Cinnamyl Butyrate	12.00@	14.00
Cinnamyl Formate	10.00@	13.00
Citral, C. P.	3.50@	4.00
Citronellol	6.50@	7.00
Citronellyl Acetate	8.60@	9.20
Coumarin	3.00@	3.50
Cuminic Aldehyde	8.00@	11.25
Diethylphthalate	.24	Nom'l
Dimethyl Anthranilate	4.55@	5.00
Ethyl Acetate	.25	Nom'l
Ethyl Anthranilate	5.75@	7.50
Ethyl Benzoate	.90@	1.15
Ethyl Butyrate	.75@	.90
Ethyl Cinnamate	3.25@	3.75
Ethyl Formate	.60@	1.00
Ethyl Propionate	.80	Nom'l
Ethyl Salicylate	.90@	1.00
Ethyl Vanillin	5.25@	6.00
Eucalyptol	2.75@	3.25
Eugenol	2.75@	3.25
Geraniol, dom.	4.00@	5.25
Geranyl Acetate	4.00	Nom'l
Geranyl Butyrate	7.75@	8.20
Geranyl Formate	8.50@	10.00
Heliotropin, dom.	3.35@	6.00
Hydrotopic Aldehyde	15.00@	18.00
Hydroxycitronellal	7.75@	10.00
Indol, C. P.	26.50@	30.00
Iso-borneol	1.00@	1.10
Iso-butyl Acetate	1.25@	2.00
Iso-butyl Benzoate	1.65@	2.70
Iso-butyl Salicylate	2.70@	3.00
Iso-eugenol	4.00@	4.85
Iso-safrol	3.00	Nom'l
Linalool	8.00	Nom'l
Linalyl Acetate 90%	8.75@	10.00
Linalyl Anthranilate	15.00@	
Linalyl Benzoate	10.50@	
Linalyl Formate	9.00@	12.00
Menthol, Brazilian	18.00@	24.00
Methyl Acetophenone	1.55@	1.80
Methyl Anthranilate	2.35@	2.50
Methyl Benzoate	.70@	1.10
Methyl Cellulose, f.o.b. shipping point	.60	Nom'l
Methyl Cinnamate	2.25@	3.50
Methyl Eugenol	3.50@	6.75
Methyl Heptenone	3.25	Nom'l
Methyl Heptine Carbonate	40.00@	60.00
Methyl Iso-eugenol	5.85@	10.00
Methyl Octine Carbonate	24.00@	30.00
Methyl Paracresol	2.50	Nom'l
Methyl Phenylacetate	3.75@	4.00
Methyl Salicylate	.35@	.38
Musk Ambrette	9.50	Nom'l
Ketone	4.50@	9.70
Xylene	1.65@	2.50
Neroline (ethyl ether)	2.00@	3.15
Paracresol Acetate	2.50	Nom'l
Paracresol Methyl Ether	2.60	Nom'l
Paracresol Phenyl-acetate	6.50@	8.50
Phenylacetaldehyde 50%	3.00@	3.75
100%	4.50@	5.00
Phenylacetic Acid	3.00@	3.75
Phenylethyl Acetate	3.00@	4.90
Phenylethyl Alcohol	2.50@	3.00
Phenylethyl Anthranilate	16.00@	
Phenylethyl Butyrate	4.00@	4.25
Phenylethyl Propionate	3.90@	5.60
Phenyl Formate	12.50@	18.00

Phenyl Valerianate	16.00@	17.50
Phenylpropyl Acetate	10.00	Nom'l
Santalyl Acetate	20.00@	22.50
Skatol, C. P. (oz.)	5.35@	6.00
Styralyl Acetate	2.50@	3.00
Styralyl Alcohol	9.25@	12.00
Vanillin (clove oil)	2.60	Nom'l
(guaiacol)	2.35	Nom'l
Lignin	2.35	Nom'l
Vetivert Acetate	25.00	Nom'l
Violet Ketone Alpha	18.00	Nom'l
Beta	15.00	Nom'l
Methyl	6.50	Nom'l
Yara Yara (methyl ester)	3.20	Nom'l

BEANS

Tonka Beans, Surinam	.70@	.95
Angostura	2.50@	3.00
Vanilla Beans		
Mexican, whole	9.25@	9.50
Mexican, cut	8.25@	8.50
Bourbon	8.00@	8.50
Tahiti	3.75@	4.00

SUNDRIES AND DRUGS

Acetone	.8½@	.09
Almond meal	.25@	.27
Ambergris, ounce	17.00@	20.00
Balsam, Copaiba	.52@	.54
Peru	1.10@	1.20
Beeswax, bleached, pure		
U. S. P.	.57	Nom'l
Yellow, refined	.52½	Nom'l
Bismuth, sub-nitrate	1.20@	1.22
Borax, crystals, carlot ton	55.50@	58.00
Boric Acid, U. S. P., cwt.	6.95@	7.55
Calamine	.18@	.20
Calcium, phosphate	.08@	.08¾
Phosphate, tri-basic	.09@	.10
Camphor, domestic	.68½@	.83½
Castoreum	13.00@	26.00
Cetyl Alcohol	1.75	Nom'l
Pure	2.25	Nom'l
Chalk, precip.	.03½@	.06½
Cherry Laurel Water, carboy	5.75@	6.25
Citric Acid	.21	Nom'l
Civet, ounce	28.00@	49.00
Clay, colloidal	.07@	.15
Cocoa Butter, lump	.25½@	.27
Cyclohexanol (Hexalin)	.30@	.50
Fuller's Earth, ton	15.00@	33.00
Glycerin, C. P., drums	.18¼@	.18¾
Gum Arabic, white	.42@	.45
Amber	.13½@	.14
Powdered, N.S.P.	.19@	.21
Gum Benzoin, Siam	5.00	Nom'l
Sumatra	1.35@	1.40
Gum Galbanum	1.80@	2.00
Gum Myrrh	.50@	.55
Henna, pwd.	.30@	.35
Kaolin	.05@	.07
Labdanum	3.25@	5.00
Lanolin, hydrous	.35@	.36
Anhydrous	.36@	.37
Magnesium, carbonate	.09@	.10¾
Stearate	.24@	.27
Musk, ounce	50.00	Nom'l
Olibanum, tears	.18@	.35
Siftings	.11½@	.13
Orange Flower Water, gal.	2.00@	2.50
Orris Root, African, pwd.	1.10@	1.15
Paraffin	.06¼@	.09
Peroxide	1.10@	1.75
Petrolatum, white	.06¼	.08½
Quince Seed	1.75@	2.00
Rice Starch	.09@	.10
Rose Leaves, red	4.00@	4.10
Rose Water, gal.	6.50@	8.00
Rosin, M. per cwt.	5.06	
Salicylic Acid	.35@	.40
Saponin	2.00@	2.50
Silicate, 40°, drums, works, 100 pounds	.80@	1.20
Soap, neutral, white	.20@	.25
Sodium Carb. 58% light, 100 pounds	1.35@	2.35
Hydroxide, 76% solid, 100 pounds	2.60@	3.75
Spermaceti	.26@	.27
Stearate Zinc	.30@	.31
Styrax	1.35@	1.60
Tartaric Acid	.64	Nom'l
Tragacanth, No. 1	5.00@	5.25
Triethanolamine	.34½	Nom'l
Violet Flowers	1.75@	2.00
Zinc Oxide, U. S. P. bbls.	.10½	.10¾

OILS AND FATS

Castor No. 1, tanks	13@	
Cocoanut, Manila Grade, c.i.f., tanks	.0835@	
Corn, crude, Midwest, mill, tanks	12¾@	
Corn Oil, distilled, bbls.	.15½	Nom'l
Cotton, crude, Southeast, tanks	12¾@	
Grease, white	.08⅞@	
Lard	.1380@	
Lard Oil, common, No. 1 bbls.	.14@	
Palm, Niger, drums	.0865	
Peanut, refined, barrels	.16½	Nom'l
Red Oil, distilled, tanks	.12½@	
Stearic Acid		
Triple Pressed	.18⅝@	.19¾
Double Pressed	.15⅞@	.16⅛
Tallow, acidless, barrels	.14¼@	
Tallow, N. Y. C., extra	.08⅝@	
Whale oil, refined	.1232@	

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